DOCUMENT RESUME

ED 173 118 SE 027 933

TITLE	Public Energy Education: Issues for Discussion. Draft.
INSTITUTION	Public Energy Education Task Force.
SPONS AGENCY	Department of Energy, Washington, D.C. Educational Programs Div.
PUB DATE	79
NOTE	84p.; Not available in hard copy due to marginal legibility of original document; Appendix A, page 10, missing from document prior to being shipped to EDRS for filming; Appendix H, Energy Behavior, removed due to copyright restrictions
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Attitudes; *Behavior; Citizen Participation; *Education; *Energy; *Energy Conservation; Evaluation Methods; *Information Dissemination; *Nonformal Education; Public Policy

ABSTRACT

This paper was intended to stimulate discussion of energy education issues at a conference on energy issues. The discussion ranges through numerous topics at issue in energy education including public energy awareness, definition of public education, the distinction between public education and public relations, and the presentation of a model program. Appendices are included. (RE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED173118

DRAFT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

PUBLIC ENERGY EDUCATION

- Issues for Discussion -

BEST COPY AVAILABLE

This Paper was prepared by the Public Energy Education Task Force, a non-governmental group, and was funded under contract by the U.S. Department of Energy. Task Force members, and their organizational affiliations, are listed on the second page following.

The issues raised in this Paper were selected by the Task Force and do not necessarily reflect the official views, policies, or priorities of the Department of Energy.

The Paper is primarily intended to stimulate further discussion of this topic at the National Energy Education, Business and Labor Conference, Washington, D.C., January 15-17, 1979.

U.S. DEPARTMENT OF ENEPGY
Intergovernmental and Institutional Relations
Office of Education, Business and Labor Affairs
Education Programs Division
Washington, D.C.

SE 027 933

The individuals on the Public Energy Education Task Force were asked to serve as members of the group to review the public education programs of the Department of Energy because each of these individuals had been involved in at least one public energy-related project. Some projects were privately sponsored and funded; others were supported by the DOE.

In taking on such a difficult task, we recognized there would be severe limitations due to time and travel constraints. However, because of our interest in and individual concerns about the energy problem and its effect upon the public, we were willing to provide the benefits of our combined experiences in working with the public and with DOE.

It should be noted that the charge to the Task Force did not include a review of energy programs planned for traditional educational institutions (primary and secondary schools, colleges, etc.). Some Task Force members felt that this created a serious gap in our discussion or public education programs.

We commend the Department of Energy for providing an opportunity for public participation through this Paper and through public comment expected at the National Energy Education, Business and Labor Conference. We hope that this Paper will be seen as constructive and that it will provide some assistance to those in decision-making positions within the Department of Energy.

-- Shirley Sutton
Pittsburgh, Pennsylvania

January 3, 1979

PUBLIC ENERGY EDUCATION
TASK FORCE MEMBERS

Ms. Shirley Sutton (Chair)
Americans for Energy Independence
Pittsburgh, Pennsylvania

Mr. Ken Bossong
Citizens' Energy Project
Washington, D.C.

Mr. Wilfred Burton
American Gas Association
Arlington, Virginia

Mr. Jack Eckman
United Steelworkers of America
Pittsburgh, Pennsylvania

Mr. John Haaland
The Pillsbury Company
Minneapolis, Minnesota

Ms. Judy Knight
League of Women Voters of Wyoming
Laramie, Wyoming

Mr. Gene Pokorny
Cambridge Reports, Inc.
Cambridge, Massachusetts

Ms. Barbara Shailor
International Association of
Machinists and Aerospace Workers
Washington, D.C.

Dr. Paul C. Stern
Yale University
New Haven, Connecticut

Dr. Mary Stevens
Black Hawk College
Moline, Illinois

Mr. George Tressell
National Science Foundation
Washington, D.C.

Ms. Lilian Webb
Alliance to Save Energy
Washington, D.C.

Ms. Isabelle P. Weber
League of Women Voters
Education Fund
Washington, D.C.

PUBLIC ENERGY EDUCATION

- ABSTRACT -

Great confusion and a lack of basic information exist in virtually all segments of the American public regarding energy issues and options. Although vast corporate, governmental and special-interest resources are currently devoted to the advocacy of particular points of view, little emphasis is being placed on nonpartisan energy education designed to provide information and to establish perspectives so that the public can better arrive at its own value judgments on energy questions. The Federal Government is the most appropriate sector of society to take a leadership role in support of such nonpartisan education.

Because education is a process through which most people learn to think, energy education must not presuppose beliefs, attitudes, or actions that individuals should adopt, even in the case of issues like energy conservation. Instead, it should be directed at increasing public understanding of energy choices in the broadest context, by placing factual information within the economic, social, environmental, political, international, and ethical dimensions of the issues.

A national energy education program should recognize and accommodate the multiplicity of possible solutions to energy questions, the complexity of these questions when they are considered from the points of view of our country's many regions and publics, and the variety of channels that exist for the delivery of energy education.

First of all, an energy education program must attend to all major technical and policy options, including study and evaluation of all those technologies to which a substantial Federal commitment is being made.

Second, since various energy issues are not equally important for all citizens, energy education must be developed from the perspective of, and made available to, a variety of publics, such as; senior citizens, youth, teachers, low-income people, farmers, members of labor unions, business leaders, and those concerned with environmental and consumer issues. Because publics also vary regionally, not only is it important to develop educational materials around national energy questions, but it is also necessary to develop energy education so that it will be relevant to each region of the country.

Third, a variety of channels is important for delivering energy education; existing educational institutions, those organizations representing special publics and motivated to deliver education to

their people, and the various mass media.

To achieve these characteristics, the public energy education program of the U.S. Department of Energy (DOE) must be well funded, carefully planned, and broadly based.

Substantial funding should be committed to nonpartisan and comprehensive energy education, because effective public education is of critical importance to the entire DOE mission. In the use of these funds, a clear distinction must be made between propaganda and marketing efforts, public information, and public education.

In the development of a comprehensive public energy education program, clear goals, complete needs assessments, and development of ongoing re-evaluation methods must be established.

To allow for public scrutiny, involvement, and applied expertise, an advisory review panel should be established by the Department of Energy for oversight functions related to its public education and public information programs.

In short, this Task Force has agreed that the DOE should develop a credible public energy education program. This program must be designed to provide perspective and insight and must be characterized by balance, objectivity, and accuracy.

It is hoped that the work of this Task Force and the ideas expressed in this Paper and at the National Energy Education, Business, and Labor Conference will help to provide a framework for such a program.

PUBLIC ENERGY EDUCATION

I. IMPORTANCE OF PUBLIC UNDERSTANDING OF ENERGY ISSUES

Since the oil embargo of 1973, energy information and communication efforts have been implemented and intensified by a wide variety of organizations and institutions. Federal agencies and the White House, elected officials, energy industries, scientists, environmentalists, consumer activists, leaders of organized labor, utilities, energy-using industries and businesses, State and local governmental units, the formal academic community, and the news media have been among the major energy communicators in the United States. A massive amount of information has been generated. The energy industry and the Federal Government have concentrated awesome resources in this area during the five post-embargo years, spending hundreds of millions of dollars on the dissemination of energy information. In the face of

this overwhelming amount of material being "fired" at the American public, all available data (Gallup, Harris, Opinion Research, Cambridge Reports, etc.) demonstrate that tremendous confusion and lack of basic information on energy matters exist in virtually all segments of American society (See Appendix A). Moreover, the agencies and organizations investing the greatest amounts of money and effort are among those with the lowest credibility rating with the public.

The reasons for this confusion and lack of basic knowledge are many and varied. Two major factors can be easily discerned. One, the energy situation itself is tremendously complex. Two, while great resources have been devoted to issuing energy messages, information, and often-conflicting "facts" by the parties involved, few resources have been devoted to developing and supporting efforts to assist the public in dealing with this vast amount of information. This priority may be understandable in the case of individual firms, industries, or other special interests seeking to protect and maximize profits. It is unacceptable in the case of the Federal Government.

President Carter and senior officials of the U.S. Department of Energy, along with many other national leaders, have stated their desire for the establishment of a citizenry that can deal knowledgeably with those energy questions that continually confront them. Despite such proclamations, this goal is not being translated into programs truly designed to meet such an objective. Energy is closely linked to economic well-being, the environment, national security, and the quality of life. A well-informed public will be better able to comprehend and support necessary policies, less receptive to simplistic solutions, and better able to make the personal decisions and take the actions that are so necessary.

II. DEFINITION OF PUBLIC EDUCATION

Education is a process in which individuals collect and organize information, develop perspectives, and understand alternatives that affect their behavior. Education is a process during which people learn and think. It can be either formal or informal.

Formal education usually is conducted by educational institutions or organizations. They may be traditional -- such as schools, institutes, colleges, universities, and industrial or labor-group education arms -- or they may be non-traditional, such as public-interest groups, civic associations, professional societies, youth groups, government, and others. Formal education ordinarily includes an evaluation of the participant's performance in mastering the materials, skills, and objectives introduced.

Informal education generally occurs with little prior planning or supervision, and includes no evaluation or official recognition of achievement. It is the continuing process of gathering and organizing information from reading, conversations, broadcasts, various activities, and any number of other, casual learning experiences. Often, informal learning is unintentional and simply results from the casual pursuit of one's curiosity and individual interests. It may be undirected and "recreational," an experience of education-as-entertainment; or it may consist of the development of personal interests through independent research, hobbies, lectures, experiential on-the-job training or learning, travel, library and museum programs and exhibits, and some television and radio programming. The average individual engages in such unintended learning throughout a lifetime.

As used within this Paper, public education refers to all informal education and some formal education. Included are unintentional, undirected, and recreational learning, such as occurs in ordinary life situations, conscious attempts to gather and organize information through attendance at or viewing of educational public programming, and education that results from the activities of non-traditional agents, such as civic associations and public-interest groups. Excluded is formal education of the type available through existing and traditional educational institutions, such as schools, colleges, and universities.

In addition, it is important to distinguish between public education, on the one hand, and propaganda, marketing, and public information, on the other.

The Task Force believes that, within the DOE, the word education is sometimes used indiscriminately to refer to almost any kind of informational or marketing activity. A public education program, especially one that is government-sponsored, must recognize and carefully respect the differences between education and propaganda or marketing. Education should not be directed to beliefs, attitudes, or actions that individuals should adopt, even in such generally accepted areas as energy conservation. Education does not attempt to indoctrinate; rather, it seeks to better enable individuals to develop their own perspectives and opinions. Education is not paid television advertising.

It is important that a critical distinction be made between public information and public education. As with every governmental agency, DOE has a responsibility to provide full and complete information to the public about DOE missions and activities; its views of world and national energy matters, the policies and rationale of the agency,

and its programs. It is a responsibility of the government to make its views known and its actions understood. But the exercise of this responsibility should not be confused with public education; it is public information.

Effective public energy education must focus upon two related but distinct components: practical information and contextual knowledge. Practical energy education may address courses of action, problem-solving, and consumer information. But energy education must also use such factual information within the context of economic, social, environmental, political, international, and ethical factors, and must give consideration to those other issues and forces which shape policy and determine the ultimate effects of energy decisions.

III. PUBLIC EDUCATION/PUBLIC INFORMATION -- A CLEAR DISTINCTION NEEDED

Although the Task Force is concerned with public education only, the manner and methods of the Department of Energy's public information programs have considerable impact upon the effectiveness of its public education efforts. The Task Force has noted the following possible areas for improvement of DOE public information efforts:

1. A tendency on the part of DOE to "sell" government actions and policies through the techniques of rhetoric, persuasion, and advertising. While public information is necessary for all government agencies, because of public debate and confusion in relation to energy issues it is especially important that DOE exercise checks, balances, and even external controls so that it will always clearly distinguish public information from public education.

2. Too biased a participation by some DOE program offices in public debates of energy issues. An effective program to provide public perspective and insight must be characterized by balance, objectivity, and accuracy. It must be able to present controversial issues with a credible balance and freedom from bias. Such a program cannot be achieved within an agency that is itself a participant in the debate as well as in the final decisions, for no agency can be both a heated debate participant and a neutral explainer of all sides of the issue.

3. A lack of coordination and control within DOE itself, resulting in a competitive information environment and a seeming lack of internal consensus concerning the energy problem itself. While

all segments of DOE share a responsibility to make the public aware of their roles and activities, in such a competitive environment information may easily reflect the relatively narrow funding and political goals of particular program offices, rather than the needs of the public or of the communication media upon which the public depends for much of its information.

4. Underfunding of the agency's public education program. The agency spends an estimated $25 million per year to disseminate public information, but it allocates only ten percent of this amount for public education. It would seem appropriate that these two responsibilities be given at least equal priority; a priority that should be reflected in equal funding.

Thus, the Task Force believes that a Federally-sponsored public energy education program should clearly separate its information and education functions, giving at least equal priority and funding to public education and establishing procedures and an organizational structure to ensure the effective discharge of both responsibilities. The Task Force also believes that DOE, in order to assist in the process of public education, should institute the following three information-related activities. These activities, if undertaken, will tend to enhance the credibility and accountability of the agency's public information efforts.

1. A Public Advisory Panel. The Task Force believes that, in keeping with DOE's responsibility to provide public information, the agency should establish a panel of advisors representing major communication media, citizens groups, labor, education, and consumer interests. This panel would provide public oversight and involvement for the agency's public information services. It should meet regularly, perhaps semi-annually, in public sessions at which the information activities of DOE would be reported and subjected to scrutiny. Such a regular review would provide a healthy visibility and should help build a much needed credibility for DOE's informational activities.

2. A DOE Information Activities Report. Public information activities are, as they should be, dispersed throughout DOE in those areas where they are most likely to be accurate and authoritative. But they are difficult to identify, evaluate or subject to budgetary scrutiny. The Task Force believes that an annual accounting and report of public information activities would assure that these materials, activities, and expenditures can be identified. It believes that it is important that such an annual "Information Activity Report" include not only public relations material, but also the many semitechnical reports, brochures, films, etc. that

are distributed to the general public and which often serve a public relations role.

3. A Clearinghouse for Energy Programs and Developments. A clearinghouse service to regularly report on the status and progress of Federally-funded and other energy developments and programs, compiling in a single report the information sent to it by each such program, would also assist the public in its dialogue on energy issues. Descriptions of locally-developed energy programs (education and otherwise) could be filed with this office to make the information available to local groups throughout the country.

IV. PUBLIC EDUCATION -- OUTLINE FOR A MODEL PROGRAM

While public information is an agency's responsibility, in some ways it can become a self-serving function. On the other hand, the Task Force believes that public education is a major DOE responsibility that has been given, up to this time, only token attention even within the DOE itself. The remainder of this Paper will deal with the development of an effective public education program.

1. The Task Force believes that the DOE should develop a comprehensive energy education plan, including goals, needs assessments, and ongoing re-evaluations. Policy makers and program directors should agree on long-range education goals before new educational programs are begun. This internal DOE planning should be done under public scrutiny and with significant public input.

2. DOE should establish a program of grants for educational activities with funds at least equal to those devoted to the agency's public information activities -- a minimum of $10 to 20 million per year. DOE should explore the possible use of both public and private-sector funds for cooperative, DOE-coordinated public education efforts. These grants should be made available to organizations representing special publics, and to public educational agencies.

3. The Department should support educational activities of a variety of external groups and organizations, at the same time applying procedural controls (peer review, competitive solicitation of proposals, academic freedom, etc.) that proscribe the misuse of such support and that ensure balance, objectivity, and accuracy.

4. Project grants should be awarded and administered through a program of peer review and controls. There should be freedom from content interference (by the funding source or sources). With such procedures, a public energy education program can be credible, cost-effective, flexible, and readily subject to public scrutiny. It would also

be conducted through well-established channels that have demonstrated their insight into the nature and needs of their audiences, and their effectiveness in responding to them. Such programs are not new; there is substantial precedence for them in the educational programs of agencies such as the National Science Foundation and the National Endowments for the Arts and Humanities (See Appendix B). These Federal funding sources provide support for both formal and informal education conducted through a variety of channels, such as: public-interest groups, labor unions, civic associations, broadcast and print media, traditional academic institutions, and others. All maintain a competitive review of project proposals, in terms of both objectivity and effectiveness. All maintain an isolation from the selection and treatment of content (See Appendix C). All enjoy a substantial credibility as neutral education programs. The goals, guidelines, and deliberations of these programs are open to the public, and the competitive nature of the process itself assures a level of responsibility that is difficult to obtain in any other way.

5. The education program should support education activities of organizations responding to the needs of special-interest groups, such as minorities, senior citizens, business, labor, consumers, educators, etc. Because there is no single public, but a multiplicity of audiences of varying motivation, sophistication, education, and experience, an effective public education program is one which recognizes and responds to this great variety. The Task Force strongly believes that a program of general public education should be complemented by support for community organizations that can help to define issues and options in personal and community terms. To do so, they need both project support and access to professional expertise.

6. It is important to develop energy education so as to make it relevant to each region of the country, as well as to the broad perspective of national debate. Energy education materials related to local or regional issues should be prepared by groups within the affected locality or region.

7. All media should be employed, but not through the purchase of advertising space and time. The Task Force feels that it is neither appropriate nor necessary for the government to purchase broadcast time or advertising space. Instead, the print and broadcast media should be provided support through press conferences, lecture series, or other methods of furnishing background information about energy programs.

8. Existing public outreach facilities should be fully utilized, including community colleges, libraries, museums, etc.

9. In all of its projects, the public energy education program must provide procedural isolation from government interference in content treatment, and from interference in the normal service of communication media.

The charge of the Task Force on Public Energy Education was to assist Department of Energy officials in a search for an improved public energy education program.

Through use of information presented to us by DOE program directors, through research, discussion, and individual experiences, the Task Force was able to prepare this Paper in a relatively short time period. While there are some members who would prefer more specific and forceful recommendations, it was somewhat surprising to find so many areas of agreement among the Task Force members.

We have agreed that there is great confusion and a lack of basic information to help the American public deal knowledgeably with energy issues. This situation exists because the energy problem is complex and because there is a lack of a nonpartisan energy education program designed to provide information to enable the public to arrive at its own value judgments on energy questions.

To develop such a program, we believe that the Department of Energy must clearly separate its public information and public education programs, establish a well planned, adequately financed education program by providing grants to external organizations through a competitive, peer review process. The program should be designed to provide perspective and insight and must be characterized by balance, objectivity, and accuracy.

The Task Force hopes that the Department of Energy can establish a public energy education program incorporating the suggestions that have been made in this Paper. We believe that such a program can help DOE to realize its goal of providing the kind of information that will help to bring about a citizenry truly knowledgeable about our increasingly critical energy problems and options.

-- Shirley Sutton

Appendix A

ATTITUDES, KNOWLEDGE AND BEHAVIOR OF AMERICAN CONSUMERS REGARDING ENERGY CONSERVATION WITH SOME IMPLICATIONS FOR GOVERNMENTAL ACTION

Jeffrey S. Milstein, Ph.D.
Director, Marketing Research
Office of Energy Conservation and Environment
Federal Energy Administration
Washington, D.C. 20461

Abstract

American consumers, who use one-third of our energy, favor energy conservation, but generally do not practice it. This paper presents empirical data and analyses of psychological, cultural, economic, and political reasons for this; indicates effective incentives and motivations for conservation; and spells out the implications for governmental policy and action.

The Consumer and America's Energy Problems

In balancing American energy demands with available supplies, thereby reducing American dependence on foreign oil imports, which proved unreliable during the embargo, American consumers play an important role. Almost a third of the energy used in the United States is consumed by people in their homes (20%) and automobile (12%). Another 15% is used in the commercial sector, 41% in the industrial sector, and an additional 12% in the non-automobile transportation sector.

There are specific behaviors in homes and cars that consume the greatest amount of energy. City driving accounts for 55 percent of all miles driven by consumers. Within the home, an average 53 percent of the energy is used for space heating, and 15 percent for water heating, 6 percent for air-conditioning, 7 percent for refrigeration, 5 percent for cooking, and 11 percent for lighting, clothes drying, and other uses.

---

[1]The findings and interpretations in this document should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Federal Energy Administration or the U.S. Government.

The author wishes to thank Joanne Bakos and Jill Lady for their help in preparing and editing this document.

If consumers are to conserve energy effectively, they must choose and use their purchases much more wisely. They must buy more insulation and more efficient cars and appliances. And they must use their cars more efficiently: carpooling, driving at slower speeds, etc. They must use their appliances more efficiently in off-peak hours. Consumers must set their heating thermostats lower and their air-conditioning thermostats higher.

But American consumers are reluctant to change their behavior to save energy. This paper seeks to explain why by analyzing and interpreting empirical data gathered by FEA. It will also explain how these answers can be used in designing effective governmental policy.

Data Sources[2]

The Office of Energy Conservation and Environment of the Federal Energy Administration directed contractors to do research on consumer attitudes, knowledge, preferences, motivations, and behavior regarding energy conservation. The research is of two types: national probability sample surveys and focused group discussions. Surveys, of 1,000 to 1,200 people each, were made monthly from August 1974 to April 1976 in the 48 contiguous States. Each respondent was interviewed by telephone for 12 to 20 minutes. A total of 18 focused group discussions were held in Denver, Trenton, Hartford, Seattle, Chicago, and Nashville. In each case, trained leaders led 10 to 12 people in discussions that lasted from 1 1/2 to 2 hours.

Awareness of the Energy Problem

A majority of the public is aware of the Nation's energy problems. In April 1976, those surveyed responded fairly knowledgeably to the question, "In general, what is your understanding of what the energy problem is all about?".

---

[2] The references to specific data contained in the body of this paper can be found in the reference section at the end. Survey data can be found in the Opinion Research Corporation studies. Information from focused group discussions can be found in the Bee Angell and Associates and Gallup Organization studies.

Response	Percent
Demand is greater than supply	29
Natural resources are being used up	15
Need to conserve	11
Energy is being used wastefully	9
High cost of energy	9
U.S. dependence on foreign supply	5
Haven't developed alternative fuels	3
No real problem	13
Other answers	8
Don't know	17

People are aware that the demand for energy exceeds the supply and that it is important to conserve. But note that only 5 percent of the public mentioned U.S. dependence on foreign supplies; yet the Arab oil embargo is what precipitated the energy crisis three years ago.

Note also that 30 percent of the public still does not understand either what the energy problem is or that there is an energy problem. Among those who have not completed high school the percentage is 41. The trend, however, is toward a greater public understanding that the energy problem is real. Just after the embargo ended, fewer than one-third of the people thought that the energy shortage was real.

We must be concerned with the public's understanding of the energy problem because consumers will not conserve unless they know how and why they should. Americans do not realize how dependent they are on foreign imports or that the amount imported has actually increased from 38 percent at the time of the embargo to 43 percent today. Consequently it will be difficult to induce the public to accept any foreign policy decisions that are designed to reduce our imports. Perhaps even more important, such unawareness relieves the consumer of a compelling reason for saving energy.

Attitudes and Behavior

Energy conservation is now an apple pie concept--virtually everyone is for it but in the abstract. In February 1976, when asked in a national survey "How serious is the need to save energy?", 45 percent said very serious, 39 percent said somewhat serious, 5 percent had no opinion and only 11 percent said not at all serious. Moreover, 74 percent of the people queried in September 1975 thought that personal conservation efforts have a real effect on the total amount of energy used.

People are saving some energy in their homes and cars. Actual consumption in these areas is about one-tenth lower than the amount predicted if Americans had continued their energy consumption growth rate in the decade prior to the Arab oil embargo of 1973-74. But there is a great discrepancy between lip service and action. In April 1976, 76 percent of the people surveyed said they prefer to cut down on their car's fuel consumption by sharing a ride to and from work, but in December 1975 only 20 percent said they do share rides. Forty-seven percent said they prefer to use a bus or train rather than a car, but only 8 percent said they took a bus or train to work. And 76 percent say they prefer to drive no faster than 55 mph on an open highway. We can judge from our own experience the actual speed most people drive.

A similarly large majority (53-91 percent) say that they prefer to walk rather than drive to places within a half-mile from where they are, to tune their engines, to buy radial tires, to install weatherstripping and caulking, to buy insulation for their attics and storm windows and doors, to use cold water detergent, to service their furnaces, to set their thermostats lower than 68° in the day and 60° at night, and to set their air-conditioning thermostats no lower than 78° in the summer. But we must question how much these statements of preference are translated into actual behavior.

That American consumers have a long way to go in developing specific energy conserving behaviors can be seen from the following table, which is based on surveys made in December 1975 and January 1976. The percentages may be even lower than the table indicates; we cannot assume that people report their own behavior accurately.

Behavior	Percent of People
Turning out lights when they leave a room	55%
Turning heating thermostats to 68° F or below during the day	48%[3]
Turning thermostats down at night to 68°	61%
Turning thermostats to 64° or less at night	22%[4]
Waiting until clothes dryer is full before running	77%[5]
Waiting until dishwasher is full before running	89%[6]
Carpooling to work	10%
Taking public transportation to work	8%
Walking to work	5%
Driving car alone to work	69%

People like to think that they are contributing to energy conservation, so they take the energy-saving steps that involve little inconvenience. They turn off lights when they leave a room. This expiation for sin leaves their consciences free to drive alone to work (it's so much more convenient) or heat their homes to higher temperatures (it's so comfortable).

---

[3] of the 82% of the total who have thermostat controls.

[4] FEA recommends 60°F or less.

[5] of the 63% who have a clothes dryer.

[6] of the 34% who have an automatic dishwasher.

People are apparently taking a middle position on energy efficiency in their automobiles. Measuring car purchasing behavior, the following table shows new car sales.[7]

Size	September 1 - 10 1975	1976
Subcompact	17%	17%
Compact	25%	30%
Intermediate	32%	34%
Full-size	25%	18%
Vans	2%	1%

The trend in actual purchasing is clearly towards intermediate and compact size cars with sub-compact and full-size cars becoming the minority.

Why People Are Not Saving Energy: Ignorance

Many consumers do not really know how to save energy. For example, 36 percent of the people surveyed in January 1976 do not even know that lower-wattage light bulbs use less electricity (even though turning out lights is the one energy-conservation action that a majority of people perform). Fifty-nine percent of the people incorrectly think that keeping a light bulb on uses less energy than turning it off several times an hour. Forty-six percent do not know that over the year the water heater uses more energy than any other appliance in the home. Forty-two percent of the people do not know where their water heater control is, and 42 percent of the people whose water heater have controls do not know its setting. Fifty percent of the people do not know that it takes less gasoline to restart a car than to let it idle for a few minutes. Only 13 percent think their insulation is inadequate, although by objective standards the actual inadequacy is much higher.

---

[7] "Ward's Automotive Statistics," Sept. 1976.

Why People Are Not Saving Energy: The Self-Indulgent, Affluent Society

The focused-group research done for FEA suggests the Americans have cultural norms that militate against reducing their use of energy. Americans are self-indulgent, loathe to deny themselves comforts or conveniences, have a tendency to live for today rather than for future generations, are materialistic, and define success in terms of conspicuous consumption. People work and save in order to become rich. And once rich, they want to publicize their success with energy-consuming material goods and activities. People resent being told that they must forgo the success symbols that, according to American mores, is the reward for their work.

The materialistic American dream, while dominant, is not universal. Young adults show a concern for the quality of life as well as material success. They would like to see a restructuring of social values so as to stress simplicity, independence of technology, and conservation in a larger sense. But, they don't see energy conservation itself as being particularly constructive.

Teenagers, though angry at the adult world for handing them the energy problem while the adult world goes about doing its own thing, are themselves primarily interested in doing their own thing--having a good time--and feel that the responsibility for solving the energy problem is not theirs but that of adults.

Children (7-12 years old) also feel that adults have the major responsibility for energy conservation--not themselves. They see adults as self-indulgent, but don't reject this behavioral model. They are already socialized to the American dream. Their primary concern is their ability to enjoy their own future.

Why People Are Not Saving: Skepticism and Cynicism

Contributing to a diminished energy conservation effort on the part of the American public is their skepticism and cynicism regarding the nature of the energy problem. People in focused groups in the fall of 1975 perceived

politicians as struggling to use the energy problem to enhance their own power and prestige, rather than acting to cope with the problem itself, and oil companies and utilities as using the energy crisis to enrich themselves. About one-third of the surveyed public think that the consumers' own demands caused the energy problem. But, another third think it is caused by big business, particularly the oil companies; and another third, politicians and the government--including both Congress and the Administration. As of September 1975, only 3 percent of the public thought that the energy shortage was caused by the foreign oil producing countries. Consequently, people do not feel that information about energy is credible if it comes from either government or industry. (They place much more trust in information that comes from consumer groups.)

Moreover, people are frustrated because their fuel, electricity, and gasoline bills have risen despite willing to make personal sacrifices because they are not sure that the need is genuine; that the burden of sacrifices will be carried equitably by industry, the government, and consumers; and, that others will not profit economically or politically from their attempts to conserve. Since the end of the embargo about one-third of the public has continued to believe that the energy crisis and subsequent energy problems are contrived.

Whom People Believe

Consumers get most of their information about the energy problem from television (42 percent of the public) and newspapers (45 percent) and believe the information given by consumer organizations more than that of business or the government.

Groups People Rely On For
Energy Conservation Information

Topic	Group						
	Fed. Gov't.	Business	Gas Cos.	Consumer Groups	Media	None	No Opinion
To Save Energy in the Home (Feb. '75)	21%	9%	-	36%	23%	8%	7%

To Save Natural Gas in the Home (Sept. 75)	18%	-	24%	30%	36%	9%	4%
To Save Energy Using One's Car (Feb. '75)	14%	9%	-	40%	14%	15%	11%

Given this background of self-indulgence, skepticism, and the incredibility of the major institutions of Government and business, we must ask what is it that will lead and motivate people to save energy.

Incentives for Saving Energy

We cannot instill in Americans an energy conservation ethic as such because people are not interested in saving energy for its own sake. Nor will they save out of patriotism or concern about their progeny. The chance to save money is the most effective incentive in inducing a consumer to conserve energy. In the focused group discussions, homeowners said that they do turn down their thermostats and that they have their homes insulated--but only in order to reduce their bills. People who carpool cite the parking savings as the reason.

In February 1975 people who said that they or their family were making a little effort to save energy (95 percent of the total) were asked why. In response to this open-ended question, 59 percent of the people cited cost, 17 percent cited shortages of energy and the Nation's running out of resources, 11 percent cited their responsibilities as citizens, 6 percent said it would help the economy, 10 percent cited other reasons, and 5 percent did not know or had no answer. Thus, people conserve to save money and natural resources for the future.

In February 1975 respondents were asked the psychologically projective question of why people do not try to save energy. The answers reflect consumers indifference, selfishness, skepticism, and self-indulgence. Forty-four percent said that people do not care or are selfish. Thirty-seven percent said there really is not a shortage and saving is not necessary. Fourteen percent said it was too hard or causes inconvenience.

PAGE 10 OF APPENDIX A MISSING PRIOR TO BEING SHIPPED TO EDRS.

Exhortation or prompting was found to be less effective than either incentives or feedback. Prompting in the form of social commendation was found to be effective in reducing fuel oil consumption (Seaver and Patterson) and almost as effective as feedback in getting people to reduce their use of electricity (Palmer, Lloyd and Lloyd).

Information on energy saving or environmental consequences is the least effective means of inducing energy conservation (Cass). Neither information nor feedback enhances the results that are obtained when payments are used to induce people to save energy.

While many of these studies have been economically unrealistic (paying people to save energy), they do validate the importance of using the motive, the desire to save money, to induce people to save energy.

Implications for Governmental Policy and Actions

What are the implications for governmental policy and action of these research findings on American attitudes, knowledge, and behavior regarding energy conservation?

The government should use incentives, feedback, exhortation, and information to influence peoples' energy-using behavior. Despite the fact that these four methods vary in their effectiveness, they are all acceptable to the public.

Effective exhortation by the government requires it to increase its credibility with the people. It must use as its spokesmen men and women who have no vested economic or political interest in energy, men and women who are perceived by the public as being expert in and knowledgeable about the energy problems that the country faces. These spokespersons should urge people to save our dwindling supplies of energy, reminding them that they can use tomorrow what they save today.

To further bolster its credibility, the government must lead by example and publicize how impressive its own energy conservation has been. Because people are reluctant to sacrifice unless they see others sacrificing, government should also publicize the conservation achievements of all classes of consumers and industry.

The government must accept the challenge of making people understand the energy problem. People must be made to realize that despite the lack of gasoline lines we are dangerously dependent on undependable foreign sources of oil. They must realize that we do not produce enough of our own oil and gas, that the supplies of oil and gas are finite, and that the world may run out of these resources in the not-to-distant future. These lessons can and should be taught in terms that are meaningful to Americans. If Americans place convenience and comfort ahead of energy conservation, they must be told how uncomfortable and inconvenienced they will be if the country is embargoed again or if our supplies fail to meet our demand. Then they must be told how to make our demand meet our supplies: the necessity of doing that which saves the most energy, e.g., insulating, carpooling, and setting thermostats down in winter and up in summer.

The Federal, State, and local governments must make use of the finding that a chief incentive for saving energy is the desire to save money. They can do this in a variety of ways. They can, and in some areas do, offer tax credits, low-interest loans, or loan guarantees to those who buy energy conserving household equipment such as insulation, storm windows, heat pumps, and solar energy systems. Federal, State and local governments that own or lease parking lots can allot free parking to those who carpool, and expensive parking to those who do not. Governments can tax cars in ways that reward those who drive energy-efficient vehicles. They can tax fuel and offset the burden placed on poorer people by granting them a special tax rebate. They can use tax incentives as a means of rewarding those who manufacture cars and appliance and who construct buildings that consume less energy. And State and local governments could strictly enforce the 55 mph speed limit law and impose heavy fines for its violation.

Government must, however, balance many factors in making use of financial incentives. Participants in an April 1976 survey were asked to rate the kinds of actions the government could take to encourage conservation.

"There are a number of things the government can do to get people to cut down on how much gas, oil, and electricity they use. Would you tell me which of the following you favor and which you oppose?"

Government Action	Favor	Oppose
Provide information on how to cut down on gas, oil, and electricity	96%	3
Require that new cars, air conditioners, refrigerators, heaters, etc., have labels indicating what the yearly cost for energy to run them will be	91%	6
Set energy conservation standards for buildings, cars, air conditioners, and other equipment that all builders and manufacturers are required to follow	85%	8
Point out to people why it is their patriotic duty to cut down on their use of gas, oil, and electricity.	80%	16
Offer tax rebates to people who install extra insulation in their homes, buy storm windows, and other things that cut down on energy use	75%	21
Remove price regulations and rely on free competition to determine what the price of energy will be	47%	39
Ration the amount of gas, oil, and electricity each family can use and let people decide for themselves where they will cut down	39%	57
Limit the available supply of gas, oil, and electricity and let people work out for themselves how to meet their needs	38%	56
Adding a special tax that would make it more expensive to use energy	22%	71

It is clear that the idea of government using its powers to make energy more expensive or less available is unpopular. It is this very distaste for higher prices, and consequently the political reluctance to raise them, that has been a major cause of the slow pace of energy conservation in the United States as compared to that in Japan and Western Europe.

The table also demonstrates that people prefer policies and actions that are personally rewarding to those that are penalizing. People also prefer policies that require manufacturers and builders of appliances, cars and buildings to help consumers save energy.

The use of higher prices as an incentive to conserve energy has a built-in limitation and may generate serious social and political problems. Many people will be able to afford all the energy they want no matter how high the prices are likely to go. Those who will not be able to afford enough energy will not only sacrifice unfairly, they will probably resent the oil companies and utilities for raising their prices, the government for allowing the prices to rise, and the well-to-do for being able to afford the extra expense.

The government must make use of the finding that people respond to feedback, both because feedback is effective and because the table above suggests the people see this as a proper role for government. The feedback must allow people to see how much money and energy they are spending, and how much they have saved or could save compared to their previous consumption rates. It can require new homes and apartments to have a kind of utility meter that shows how much energy is being used and how much it will cost if the consumer continues to use energy at the same rate. It can require utility bills to project the monthly consumption to an annual cost. It can use television and newspapers much more than it has to keep people informed about how much energy the country is using, importing, and saving.

The government should continue to require the labeling of new cars and appliances so that people can know before they buy how many miles they will get from a gallon and how much they will have to pay per year for the energy needed to run a car or an appliance. FEA's April 1976 survey shows that such information does affect a consumer's choice: 82 percent of the people

surveyed say they prefer a refrigerator priced at $400 that uses $40 worth of electricity a year to a refrigerator priced at $300 that uses $65 worth of electricity a year. The miles-per-gallon figures about cars that EPA and FEA publish are also effective. Of the people surveyed, half of those who had heard of the figures said that the figures would influence their choice of a new car.

The government can fund research to help develop new and more energy-saving devices that consumers can use. It can pass and enforce laws that require manufacturers to make more efficient appliances and cars and builders to construct buildings that are more energy efficient.

The final point that Government should consider in designing and implementing energy conservation policies is that, in the end, energy conservation comes down to what the individual consumer does. And this squares with what consumers themselves think. In June, 1975, when people were asked who could do the most to ease the energy crisis, 36 percent cited the individual, whereas only 21 percent cited the federal government, and only 8 percent cited business, industry, or the oil companies. Public feeling on this point has not changed since then. American consumers believe that a part of the solution to this Nation's energy problem lies in their own hands. The government can help by providing the incentives that will induce more people to save energy.

References

Kenneth J. Dueker and Irwin P. Levine, "Carpooling: Attitudes and Participation," University of Iowa, Center for Urban Transportation Studies, Institute of Urban and Regional Research. Technical Report No. 81. (Unpublished). July 1976.

Federal Energy Administration. "A Qualitative Study of Consumer Attitudes Toward Energy Conservation." Prepared for FEA by Bee Angell & Associates, Inc.: Chicago, Illinois (November 1975).

Federal Energy Administration. "Group Discussions Regarding Consumer Energy Conservation." Prepared for FEA by the Gallup Organization, Inc.: Princeton, New Jersey (March 1976).

Federal Energy Administration. "General Public Attitudes and Behavior Toward Energy Saving." Highlight Report, vol. 1. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, September 1974).

Federal Energy Administration. "General Public Attitudes and Behavior Toward Energy Saving." Highlight Report, vol. 2. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, October 1974).

Federal Energy Administration, "Attitudes and Behavior of Residents in All-Electric Homes." Highlight Report, vol. 3. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia).

Federal Energy Administration, "Energy Consumption and Attitudes Toward the Energy Shortage." Highlight Report, vol. 4. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, November 1974).

Federal Energy Administration, "Trends in Energy Consumption and Attitudes Toward the Energy Shortage." Highlight Report, vol. 5. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, December 1974).

Federal Energy Administration, "Consumer Attitudes Toward Gasoline Prices, Shortages, and Their Relationships to Inflation." Highlight Report, vol. 6. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, January 1975).

Federal Energy Administration, "Consumer Attitudes and Behavior Resulting from Issues Surrounding the Energy Shortage." Highlight Report, vol. 7. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, February 1975).

Federal Energy Administration, "Consumer Behavior and Attitudes Toward Energy-Related Issues." Highlight Report, vol. 8. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, March 1975).

Federal Energy Administration. "General Public Attitudes and Behavior Regarding Energy Saving." Highlight Report, vol. 9. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, April 1975).

Federal Energy Administration. "General Public Attitudes and Behavior Regarding Energy Saving." Highlight Report, vol. 10. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, May 1975).

Federal Energy Administration. "The Public's Attitudes Toward and Knowledge of Energy-Related Issues." Highlight Report, vol. 11. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, June 1975).

mechanism continues to rise to a world price level, there may need to be support for fixed income and low income families most affected by such increased prices and a means to deal nationally with regional inequities in supply that may occur due to insufficient pipelines or local problems.

Conservation has been recognized as a means to reduce energy growth and thus buy more time to make the transition to alternative energy supplies. Conservation, however, could not protect the nation at this time nor in the foreseeable future against an interruption of imports from the Mid-East.

To date, the U.S. has made marginal progress in energy conservation. Large industrial users, feeling the impact of increasing energy costs, have taken steps to conserve and use energy more efficiently. The slow down of the economy has also made a contribution to energy demand reduction. Pragmatically, conservation is simply taking those steps necessary to reduce the impact of rising energy prices.

The conversion of large utilities and large industrial users to coal with continued use of natural gas by commercial, residential and certain essential process users, can do much to reduce dependency on oil and oil products.

In the long run, we are making a transition from liquid and gaseous fossil hydrocarbons to coal, solar and other renewable resources. This transition will certainly be complete in another 75 years. A major disruption in the Mid-East would force the transition upon us in crisis proportions. Because this is a strong possibility, because energy costs will continue to go up during the next five years and because increasing energy demand continues to be necessary to meet rising aspirations, both in this country and in lesser developed countries, there is a long term need to make each individual more aware of energy and our dependence on it.

The American public today is generally not aware of an energy problem. The concern that resulted from the 1973 embargo has been replaced by complacency and there is little reason to believe that energy is a significant concern to the average American. By and large it has not affected any significant number of people personally in the past two years.

To most people the only problem with energy is its increasing price. They don't think the problem is sufficiently serious to warrant any sacrifice on their part or any changes in their lifestyles. They are confident that technology will provide solutions to any supply issues and most of the public who can save energy are in the income bracket

where they do not feel it necessary to do so. The people who can least afford the increasing cost of energy have also the least opportunity to save energy. Thus, those who are least able to conserve more energy are most affected by its increasing cost and those who can save the most energy can generally afford to pay for any excess they use. As a result, the older and retired Americans and lower income people do not believe that they can conserve energy more than they are already doing. At the same time the public is concerned with its safety and generally does not want to bear the risks of nuclear wastes nor the potential pollution that could result from massive conversion to coal-burning facilities.

In this social context, a potential cutoff of oil imports would be disastrous and would require substantial transitions in all parts of our society. It undoubtedly would have a major impact on the lifestyle of the average American and, if sustained, would contribute to a change in his ideology.

During the next five years, better public awareness of the energy situation and its potential risks are needed if we are to adequately cope with the situation. Over the long term, the awareness of the ultimate transition of our technological society to energy sources that are primarily not derived from fossil fuels should be incorporated into our public school curriculum.

Sincerely,

John E. Haaland

JEH/bhk

CC Richard P. Stone, DOE

P.S. I've attached a copy of the proposed insert dictated to your secretary today.

Federal Energy Administration. "General Public Behavior and Attitudes Regarding Vacation and Business Travel, Beverage Containers, Reasons for Using Mass Transit." Highlight Report, vol. 12. Prepared by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, July 1975).

Federal Energy Administration. "Energy-Related Attitudes and Behavior of the Poor and the Elderly." Highlight Report, vol. 13. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, August 1975).

Federal Energy Administration. "Automobile Usage Patterns." Highlight Report, vol. 14. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, September 1975).

Federal Energy Administration. "How the Public Views the Nation's Dependence on Oil Imports; A Possible Natural Gas Shortage This Winter; The Overall Need to Save Energy." Highlight Report, vol. 15. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, October 1975).

Federal Energy Administration. "A Public Opinion Survey on Energy and Economic Considerations and Air Pollution Controls." Highlight Report, vol. 16. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, January 1976).

Federal Energy Administration. "Conservation of Energy in the Home." Highlight Report, vol. 17. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, February 1976).

Federal Energy Administration. Consumption and Conservation of Natural Gas." Highlight Report, vol. 18. Prepared for FEA by Opinion Research Corporation: Princeton, New Jersey. (National Technical Information Service, February 1976).

Federal Energy Administration. "Private Individual's Willingness to Make Energy-Saving Efforts and Their Perception of the Likelihood of Others' Doing the Same." Highlight Report, vol. 19. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, February 1976).

Federal Energy Administration, "Public Knowledge, Attitudes, and Behavior Relating to Natural Gas Issues." Highlight Report, vol 20. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, February, 1976).

Federal Energy Administration. "Driving and Energy Conservation." Highlight Report, vol. 21. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, March 1976).

Federal Energy Administration. "Energy Saving Behavior Around the Home." Highlight Report, vol. 22. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, April 1976).

Federal Energy Administration. "Parents' Perceptions of Their Children's Sources of Energy Information and Energy-Related Activities." Highlight Report, vol. 23. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, April 1976).

Federal Energy Administration. "Understanding of the Energy Situation and Evaluations of Alternative Actions." Highlight Report, vol. 24. Prepared for FEA by Opinion Research Corporation, Princeton, New Jersey. (National Technical Information Service: Springfield, Virginia, May 1976).

R. M. Foxx and D. F. Hake, "Gasoline Conservation: A Procedure for Measuring and Reducing the Driving of College Students," University of Maryland Baltimore County (Unpublished report).

Steven C. Hayes and John D. Cone, "Reducing Residential Electrical Energy Use: Payments, Information, and Feedback." West Virginia University (Unpublished report).

Robert Kohlenberg, Thomas Phillips, and William Proctor, "A Behavioral Analysis of Peaking in Residential Electrical-Energy Consumers," Journal of Applied Behavior Analysis, 1(Spring, 1976), 13-18.

Michael H. Palmer, Margaret E. Lloyd, and Kenneth E. Lloyd, "An Experimental Analysis of Electricity Conservation Procedures," Drake University (Unpublished report).

W. Burleigh Seaver and Arthur H. Patterson, "Decreasing Fuel-Oil Consumption Through Feedback and Social Commendation," Journal of Applied Behavior Analysis, 2 (Summer, 1976), 147-152.

Appendix B

NATIONAL SCIENCE FOUNDATION
WASHINGTON D C 20550

Directorate for Science Education
Office of Science and Society
Public Understanding of Science Program

December 15, 1978

PUBLIC UNDERSTANDING OF SCIENCE PROGRAM (PUOS)
REVIEW PROCEDURES

Following is a summary of the general review procedures used for PUOS proposals. There are occasional exceptions (where we set up a special review procedure because of unusual questions or significance to the program) but this "standard" review is used for almost all proposals.

Basically, the process is based upon a model of advice to the Program from experts in the salient areas of the content and media of the proposal, together with staff review and deliberation and oversight by a review board as well as other members of the Foundation. The written reviews and recommendations are available to the proposer and appeal is possible if the proposer questions the fairness of the review.

Objectives

The goal of PUOS is to enrich the environment of informal education related to science, so that the public will be encouraged and assisted in learning about the activities of science and its relevance to both personal and public issues. We try to reach the widest possible audience, by using a variety of media that embrace a broad range of ages, interests and levels of sophistication. We are pragmatic in this pursuit and try to serve a broad spectrum of needs by maintaining a varied roster of projects and a balanced use of different media, which can already be identified as reaching specific audiences.

Thus, we have projects that work with public broadcasting, commercial broadcasting, newspapers, minority news syndication, museums, lectures, educational theatre, etc. We have projects that are directed to children, adults and families; some directed to the naive and disinterested; others to the sophisticated and involved. Some in support of "core" activities that strengthen a particular science communication activity; others that seek to "seed" new ventures in the private sector. Some that seek to reach very large general audiences; and others that reach minority audiences through appeal to their special interests.

We try to maintain a good balance between these different objectives. And we constantly seek projects which complement each other as well as achieve the maximum "multiplier" of our limited funds. In the past year, this has resulted in roughly half of the funds being directed to broadcasting and

about one quarter to science museums. The balance includes lectures, and print journalism. We are particularly interested in the latter and other such activities in the private sector which promise to reach a much larger, less sophisticated, and less motivated audience. Thus, it is important to recognize that in this context public broadcasting is viewed as only one color in the pallette and proposals are considered in terms of their contribution to this picture, rather than in terms of support for public broadcasting as such.

PRELIMINARY PROPOSALS

We require that any formal proposal be preceded by a preliminary inquiry so that we can provide an initial staff opinion of the prognosis for funding. We do this because our ratio of preliminary proposals to funded projects is approaching 20:1 and we think that the substantial effort of a formal proposal should not be expended unless there is a reasonable prospect for success. We are also anxious to limit the cost and effort of formal review and apply it to the most promising prospects.

We respond to preliminary proposals with a form letter which either encourages or discourages a formal proposal. This response is the consensus of review by several staff members and represents our best opinion of the prospect for funding. The opinion is informal, does not preclude submission of a formal proposal, and has no part in the subsequent review. We are always glad to discuss the reasons for our opinion, though it is quite informal and we usually cannot answer the question "What should it say to be successful?" ... life is just not that simple.

Preliminary proposals are reviewed as soon as possible, but response to formal proposals always takes precedence, so the response time can vary greatly. Two months before the deadline for formal proposals, we cut off "prelims" and make sure that all on hand are reviewed and responded-to in time to allow at least a month for the authors to prepare a formal proposal. Prelims received after this date are generally held for the following review cycle.

FORMAL PROPOSALS

Review cycles, begin April 1, August 1 and December 1. At each point a batch of proposals is started through a sequence of field review, panel review and staff review. Each stage is intended to provide advice and counsel by competent peers; to help NSF and the program in its evaluation. Based upon this counsel and program priorities, a recommendation is made by the program staff. This recommendation is then subjected to a variety of administrative fiscal and legal reviews before an award is finally made.

The process takes roughly six months during which time the fate of a proposal is always in some doubt. Proposers always would like to know a verdict as early as possible but there are many cases to prove that there is no "decision" until this process is complete and an award letter is received. It is a great mistake to rely on any early opinion, and until a final letter is received, one can only be sure that a proposal is still "in process".

Review Sequence

Mail Review. As proposals are received, the staff reads each proposal and prepares a brief summary for staff and panel use. At the same time, we select mail reviewers to supplement the expertise of our advisory panel, usually three to ten are solicited. For example, a proposal concerned with a public television program about the environmental impact, of alternative energy sources would be reviewed by one or more persons in each of these areas. These mail reviews provide supplementary advice to the panel and staff.
The reviewer receives a copy of the proposal, a copy of the PUOS guidelines, a list of criteria (listed in the guidelines), and a form which asks for an opinion of the merits and weaknesses of the proposal, as well as a recommendation for or against funding, with or without modification. The reviewer is also notified that verbatim comments are available to the proposer but that reviewer's identity is protected.

Panel Review. At the same time, copies of the proposal are sent to at least three members of the PUOS Advisory Panel, a group of ten persons who represent substantial expertise in major communication fields and areas of science ... representatives of public and private broadcasting, innovative and conventional science museums, journalism, publishing, public interest groups, etc. The proposal is assigned to those members with most relevant experience and they also prepare written reviews of the proposal, discussing its merits and weaknesses. One of these panel reviewers is named as the Principal Reviewer and this person later chairs a panel discussion of the proposal.

Three times a year (roughly eight weeks after the proposal deadline) the PUOS Advisory Panel meets to consider the proposals. At this meeting the Principal Reviewer summarizes the proposal and the strengths and weaknesses noted by the roughly 6 - 10 written reviews. The principal reviewer then provides a personal opinion, and each of the other panel reviewers offers their opinion. This is followed by a general discussion, after which the panel is polled. Each panel member rates the proposal as 1) "High, 2)"Medium", or 3) "Low" merit. This poll and any comments are noted as the panel's recommendation.

After reviewing this written and panel commentary, and after weighing program funds and priorities as well as any other relevant considerations, the Program staff prepares a written recommendation for or against funding. The recommendation is then reviewed and debated by 1) the management staff of the Office of Science and Society, 2) the "Award Review Board of the Science Education Directorate, 3) the Assistant Director of NSF for Science Education.

If these are all satisfied that the review process and recommendation are sound, the recommendation is forwarded to the Office of Grants and Contracts where it is subjected to a number of additional reviews for financial, legal and administrative purposes before an award is finally made.

COMMENTS

Essentially, all of this review is concentrated on three considerations,

- o What is the content? How will it contribute to public understanding of science and its significance?
- o How will it be presented? How skilled are the communicators and what is their "track record"?
- o What is the audience? How does it help in reaching a balanced spectrum of age, interest and sophistication?

In addition to the general issues outlined above, we are particularly concerned about the balance and objectivity of the presentation. We do not feel that partisan advocacy is an appropriate use of public funds; and we want to be assured before a grant is made, that the discussion will present both sides of a controversy in a balanced, objective and accurate manner. There is no simple definition of this, of course, and assurance usually is found in the form of procedures and advisors who represent a variety of viewpoints and opinions. Once we have accepted this assurance, we do not feel that it is appropriate for us to interfere with the project except to confirm that responsible use is made of public funds in accord with the activities described in the proposal. We do not, for example, "approve" scripts or prints, and usually would not see a program before it is aired.

The review process is long, usually about six months. But once complete, the producer enjoys exceptional freedom and we rarely ask more than to be informed of the activity and progress so that we can monitor the success of the project and the use of public funds.

This represents a delicate balance between public purpose and private freedom. We think it is generally quite successful and we have yet to receive any complaint of interference from a producer, though there are occasional individuals who feel that a particular presentation has not been "fair" to their point of view. On the whole, however, the procedure seems to provide a good balance between freedom and accountability.

Sincerely yours,

George W. Tressel
Program Director
Public Understanding of Science

PUOS/GWTressel/jas 1/4/78

WASHINGTON

Appendix C

November 2, 1978

GUIDELINES ON THE RELATIONSHIP BETWEEN
FEDERAL FUNDING AGENCIES AND PUBLIC BROADCASTING

Introduction

These guidelines set out principles and procedures that will help assure a positive but appropriately restricted relationship between Federal agencies and public broadcasters. The American public has benefited from Federal agency support to public broadcasting in such areas as science, arts, humanities, and children's programming. This support offers a very cost-effective way for agencies to carry out their missions and benefit large numbers of people.

In 1977, in addition to the appropriations to the Corporation for Public Broadcasting, four agencies made grants to produce TV and radio programs intended for use by public broadcasting: HEW, NSF, and the Arts and Humanities Endowments. These grants totalled $19 million -- 28% of the total funds available for program production at the national level. These grants are a crucial source of innovative, high quality programming for the public broadcasting system. Such programming needs substantial sums and long-term commitments, and the agencies are well placed to fill those needs.

The agencies must use their funds to carry out their statutory missions. However, Government grants and contracts carry with them the potential risk of improper Government control. Public broadcasting is independent, and Government agencies must respect its journalistic freedom. Federal funds should be used to help public broadcasting provide programs in selected areas, but not to advance specific agency policies or enhance an agency's image. The objective should be excellent programming, and that requires an atmosphere of freedom, experimentation and risk in which broadcast professionals can exercise their abilities for creative development of subject matter. The guidelines outline procedures to assure that atmosphere.

In addition, better coordination is needed to help the agencies decide what to fund, help public television and radio plan their program schedules, and help producers learn what funding may be available. The guidelines include mechanisms to assure such coordination.

The individual agencies will decide which projects to fund and what procedures to use. The Council for the Arts and Humanities will monitor implementation of these guidelines and provide a forum for coordination and discussion of specific problems. It will not control individual funding decisions or procedures.

1. Procedures To Protect Editorial Independence

At every stage in the grant or contract process, agencies should use procedures that recognize the independence of public broadcasting from government control. In addition to following the procedures below, agencies should be aware of the guidelines adopted by the Public Broadcasting Service (PBS) and National Public Radio (NPR) to avoid improper control of the content of programs they air.

(1) Open Competition

(a) Agencies should announce the availability of funds as widely as possible, through national public broadcast agencies, regional and independent associations and the trade press. These announcements should allow sufficient time for awareness and proposal preparation (a minimum of 12 weeks lead time to submission).

(b) Agencies should publish (for general availability) all relevant standards and procedures used in making decisions.

(c) A statement providing the reasons for award decisions or denials should be available to the applicant.

(2) Pre-Selection Procedures

Agencies' requests for proposals should be structured in such a way as to promote and preserve the independence of the producer in developing the program, and should not be used by agencies as a means of exercising control over program content or treatment denied them at other stages of the funding process.

(3) Selection Process

Two processes help avoid improper use of grants; one or both should be used:

(a) Peer Review panels. Such panels should include members with a range of perspectives but should avoid members with conflicts of interest. The panels should use publicly available criteria (developed by the program officer or staff) to evaluate proposals and make recommendations on funding. Their recommendations should carry significant weight in the final funding decision. Agency staff members should not be members of such

panels, except that one staff member may be included if needed to provide expertise.

(b) Area funds and bloc grants. An agency wanting to fund public broadcast programs may create broadly defined "area funds" (e.g., environment, energy, housing) which would be distributed as bloc grants to public broadcasting entities, for re-distribution to producers. These grants would allow producers the greatest latitude for program development within the subject area of concern to the agency.

(4) Post-Award Responsibilities

Grants and contracts should be structured to allow producers to make independent creative decisions, with a minimum of agency supervision. The following procedures apply:

(a) Agencies should simplify all technical, fiscal and narrative reporting requirements, and these requirements should be explicit in the document of agreement.

(b) The grant or contract should be drawn to minimize the need for post-award approval by agency staff of internal budget adjustments. (For example, the Arts Endowment requires approval only if the change exceeds 25% of the line item.)

(c) Following a funding decision, agencies should not be able to require changes in scripts or other production elements, and agency involvement in the production process should be minimized, except as necessary to assure adherence to financial and time-schedule requirements.

(d) Agencies should reserve the right to conduct a financial audit of each grant or contract.

(5) Delivery of Product

Agencies may request copies of the completed program but should in no way restrict or impede producer's right to deliver the program to PBS, NPR, or other

distributor or user for distribution or use.

II. Development of a Central Clearinghouse for Information on Federal Funding of Public Broadcasting Programs or Projects

The growth of distribution technologies and the increasing importance of independent producers both expand the range of resources available to agencies and call for the distribution of timely and well-coordinated information about the purposes and scope of agency funding.

This information is vital to the many production groups and individuals seeking support from Federal agencies. Such information is also important if Congress and the general public is to have a full and accurate understanding of the scope and intention of Federal relationships with the public broadcasting system.

The Corporation for Public Broadcasting is the private entity Congress has established "to facilitate the full development of public broadcasting." The Public Telecommunications Act of 1978 requires CPB to inventory all funds distributed by Federal agencies to public broadcasters, establishing it as an information clearinghouse. To assist CPB in this task, each agency will:

(1) Provide CPB, at the time of issuance, a copy of all procedures and funding announcements, or requests for proposals, which relate to grants that are potentially available for public broadcasting programs.

(2) Provide CPB regularly updated information on awards, grants, or contracts for public broadcast materials.

CPB will compile this information, but agencies should also make it available to the public broadcasting community, independent producers, and any other individual or group requesting it.

III. Improving Communications and Coordination Between Agencies and Public Broadcasting

Agencies should coordinate their funding of radio and television programs among themselves and with the principal public broadcasting organizations. Such coordination will facilitate pooling funds for high cost ventures, avoid duplication, and reduce the danger that grants will be used for programs that are never aired.

(1) Each agency funding or planning to fund public broadcast programs or projects shall designate a coordinator. This person should have as full a knowledge as possible of broadcasting and should be assured of full access to information on related agency funding activities.

(2) The coordinator should be responsible for liaison with all units or operating programs within the agency, to:

(a) Provide technical assistance to these units.

(b) Identify goals that could be reached by funding radio and TV programming.

(c) Compile the list of funds required under Section II.

(d) Oversee agency compliance with the procedures under Section I; and

(e) Widen agency familiarity with the range of professional activities, technical and artistic developments in public broadcasting.

(3) The coordinator should exchange information regularly with the coordinators in other agencies to:

(a) Inform other agencies of intent to fund a specific project that might be similar to their interests.

(b) Discuss the agencies' priorities in order to maximize the impact of Federal funds and to explore areas of mutual professional interest. These areas might include jointly funding productions, assessment of needs, distribution rights, minority employment and production and encouraging post-broadcast use of materials.

(4) The coordinator should exchange information regularly with CPB, PBS, and NPR to keep the agencies informed about public broadcasters' procedures and needs.

Appendix D

Citizens' Energy Project

1413 K Street, NW, 8th Floor, Washington, D.C. 20005
(202) 393-6700

December 18, 1978

Shirley Sutton
c/o Project Pacesetter
Americans for Energy Independence
Park Building
355 Fifth Avenue
Pittsburgh, PA 15222

Dear Ms. Sutton

The following are my comments on the two December 15 Public Energy Education Task Force papers I have received to date; I have not yet seen the Appendixes which I understand Richard Stone is supposed to be sending.

Put middly, I was disappointed with the papers. I felt that they were bland to the point of being useless. They did not reflect any substantive policy ideas that warranted more than a dozen people spending part or all of three days in meetings listening to DOE officials talk at them. They do not provide any significant recommendations or analyses that people interested in the issue can either support and push or oppose and fight. I do not see the report having any impact upon DOE public education policy in the near term or long term.

For a start, the issue of budget size for a DOE energy education program is barely noted. The only mention of dollars is a suggested program of grants for educational activities of $10 - $20 million; given that DOE is working with a budget of several billion, such an amount is really chicken feed. A well-done education program by the agency could prove far more cost-effective than many, if not most, DOE R&D, commercialization, and demonstration programs for energy technologies. Since such efforts are all well over the $100 million mark for each major technology area (nuclear, coal, solar, conservation, etc.), I would think that a minimum starting budget for a DOE education program should be $100+ million.

Moreover, the papers did not begin to suggest criteria for how the funds should be allocated. Current DOE policy is to put most education/information monies into the safe, relatively non-controversial technology areas such as conservation and some solar projects; heatedly-debated issues such as nuclear power, coal gasification, strip mining, etc. are largely untouched by anything other than straight-forward agency propoganda. I had suggested in my last letter to you that a guidelines for education program allocations might be keeping programs on different technologies approximately proportionate to the total DOE budget for that given technology. Further, information on controversial technologies should be balanced with all sides of an issue given an opportunity (i.e. funding) to present their respective points of view & information.

I am also concerned that the papers' suggestion that grants be made to citizen groups incorporated the thought that representative citizen energy groups were the League of Women Voters and the Americans for Energy Independence. While I would agree that such organizations should be among those eligible for DOE education grants, I also feel that they are among some of the most conservative of citizen organizations. Consequently, they are groups which DOE would feel non-threatened by; they would not present a stiff challenge to current DOE thinking. I would like to see expressly included in the listed of potential grantees some of the more grassroots-based, anti-DOE-policy groups such as the Clamshell Alliance (and other major anti-nuclear alliance groups), the Center for Renewable Resources, RAIN, Iowa Consumer Action Research Group, and the National Energy Coalition; such organizations all have extensive outreach & education capabilities comparable to those of the groups mentioned.

The papers also touched very lightly on the issue of grammar and secondary schools as a focus for education programs. Most of the focus appeared to be aimed more at an adult audience. The non-emphasis of the former is a mistake in my opinion. Also on the subject of audiences, I am concerned that the implicit focus of the approaches suggested by the paper is a rather middle-class audience; I do not believe the outreach mechanisms suggested will effectively reach lower-income citizens -- i.e. those who probably bear the greatest energy burden of any economic group.

Finally, I have some doubts about the value of any form of Public Advisory Panel to deal with this issue. As a past member of advisory groups in DOE's predecessor agencies, I believe that such groups are largely ineffective and serve as a convenient excuse for the agency to ignore public criticism (by claiming that it has an advisory committee of citizens to address the given issue). Even more so, the annual Information Activities Report seems like a non-effective effort (except that it might provide for slightly better internal coordination); I doubt that it will be a useful tool for correcting abuses.

I would much prefer to see a well-funded program of education programs administered through citizen groups, community colleges, local governments, etc.; the Washington state version of the Energy Extension Program seems like a good model to follow here (it emphasizes heavy decentralization of funding and encourages a great deal of individual diversity in the development of education programs aimed at a wide range of audiences).

Given the above thoughts, I would like to take advantage of your offer to have my earlier comments prepared for the Task Force appended to the document and perhaps this note as well.

If you have any questions/comments regarding this letter, please feel free to call me.

Sincerely,

Ken Bossong, for the
Citizens' Energy Project
202-783-0452

cc. Richard Stone

Yale University New Haven, Connecticut 06520 Appendix E

MAPPING PROJECT ON ENERGY AND THE SOCIAL SCIENCES
INSTITUTION FOR SOCIAL AND POLICY STUDIES
16A Yale Station (111 Prospect Street)
(203) 436-4828

December 7, 1978

Shirley Sutton, Director
Project Pacesetter
1220 Park Building
355 Fifth Avenue
Pittsburgh, PA 15222

Dear Shirley,

Enclosed is my draft of Sections II, III, and IV of the Task Force report, except for some sections where George's material should be inserted. Note especially these parts of what I have written:

1) Recommendation to create a separate "Energy Education Office." Though the group did not discuss this, I think it is an administrative embodiment of our ideas. There are probably implications I haven't thought of, though, so please discuss it with the group that meets in Washington. My rationale for the idea is that it would (a) focus attention on our recommendations designed to remove control from DoE, and (b) encourage competition among agencies for the Office, thus possibly placing it in the agency most suited. But the idea may have problems: A colleague here suggested that the office should be only in DoE, and highly placed, to give it access to information hidden in DoE program offices. This thought also implies that educational materials, at least the factual ones, should not be produced entirely outside DoE, but maybe with collaboration between outsiders and official representatives of the relevant program offices.

2) Some of my ideas which got sidetracked in the last meeting have found their way onto page 5 (point #4), and into recommendation #11. Though I have other ideas I would like to get in, they are not now in shape to get by the dispute over whether government should fund intervenors.

3) Recommendations #s 12 and 13 do not appear earlier in what I've written. I feel they belong, but don't know where. Also, the funding recommendation appears only in Section IV; maybe it can be introduced in Section I and expanded in III.

Good luck at drafting a report from all our ideas and fragments! Please feel free to call if I can be of help.

Sincerely,

Paul

Paul C. Stern

cc: Richard Stone
encl.

II. What should public energy education include?

A careful distinction must be made between education and advertising. Programs within DoE compete with each other for funds and strive to get public acceptance of their goals. Thus, each section of DoE can be expected to make its case for public and budgetary support, sometimes by going to the people with information that promotes program goals or explains the importance of particular lines of research and development. Such activities are essentially advertising functions, and must be clearly separated from education programs if the latter are to have any credibility. They should not be labeled "educational" within DoE.

Legitimate energy education can have two functions. Most importantly, the citizenry should be aware of the context within which energy choices are made, so that public discussion and decisions will be based on consideration of all the implications of the alternatives. We call for a program of contextual education which would present information about energy technologies in the context of the economic, social, environmental, political, international, ethical, and other implications of decisions the public could make about energy. Contextual education would also include reference to the political and economic forces which influence the process of decision making in the energy area. Since the government is developing a wide variety of energy technologies, some of the educational program should be directed at the study, in context, of each of the technologies in which substantial investment is being made.

Energy education also properly includes the dissemination of factual and practical information about energy, directed at people in their role as energy consumers. This is the intent of programs like the Energy Extension

Service, which can provide people with useful facts about energy systems they control as individuals, families, and small businesspersons.

Since information about the context, and even sometimes about the facts surrounding energy use, is often controversial or changing, it is essential that educational materials and programs not be slanted to serve the ends of particular interest groups within DoE or elsewhere. Procedures to ensure the greatest possible balance and credibility for energy educational programs and materials are discussed in the next section.

III. Delivery of energy education

A. Procedures

An Energy Education Office should be established, administratively separate from DoE mission-oriented programs. It could be located either within DoE or in some other appropriate location, such as Office of Education, National Science Foundation, etc. The Office will coordinate and fund energy education as defined in this paper. This Office should operate on the basis of a specific goal statement which will be regularly reevaluated under public scrutiny and with public input. This Office will be responsible for ensuring that energy education will attend to all major national and regional energy options, that it will present energy questions in their wider context, as outlined above, that it will address the range of publics (described below), and that energy education programs and materials will be balanced and accurate.

To help prevent bias, energy education programs and materials will not be produced by mission-oriented agencies, but will be produced by outside groups, under grants from the Energy Education Office. (Further procedures,

concerning peer review, etc., described by George.)

B. Publics

Since the salient energy issues are not the same for all citizens, energy education must be directed at a variety of publics. Thus, there can be particular programs directed at people of particular ages or stages of the life cycle--senior citizens, families with young children, etc. Programs, especially those operating through schools and colleges, must be directed at a variety of educational levels. Education also varies according to whether it is directed to people who are highly motivated to learn or to people with less interest in energy questions. Further, energy education can be directed to special publics with other characteristics in common--rural homeowners low income apartment dwellers, farmers, and members of labor unions, service groups, veterans organizations, trade associations, etc. Wherever there is reason to prepare educational programs to suit such a particular public, it is legitimate to do so.

Publics also vary regionally, as do energy options. It is important to develop energy education so as to be relevant to each region of the country, yet it is also important to develop educational materials around national energy questions. The energy education budget should be specifically divided between national questions and local and regional ones, to ensure that both kinds of issues get deserved attention. Energy education materials related to local or regional issues should be prepared by groups within the affected locality or region, and a group with representation from the various regions should oversee the local and regional programs to ensure that emphasis is divided equitably among the types of local and regional concern.

C. Channels

As a first principle, the channel used to provide energy education should

be appropriate to the audience. A second principle is that the people involved in delivering the educational programs and materials be involved in their preparation. These principles operate whatever channel is used to educate the public.

1. Media. All media can legitimately be employed, according to what will be most effective in reaching the target population. It is better to involve news media in creating the program (for example, by organizing press conferences, lecture series, or other newsworthy events to cover) than it is to buy time or space in the media to present prepackaged material.

2. Use of representative organizations to reach special publics. Some existing programs within DoE have successfully used groups like the League of Women Voters, the United Steelworkers Union, the American Legion, etc., to reach the publics they represent. When such an organization provides education for its members, the organization becomes committed to the educational process, and can design a program for maximum impact on the audience.

Organizations that represent special publics should be supported for organizing forums, conferences, and workshops that actively involve people in defining and discussing energy issues and options both within their memberships and in the surrounding community. They should be supported in efforts to set up clearinghouses of energy information when such projects would be useful to enough other groups. Support should also be available to provide professional consultation to these groups for creating education programs and for preparing their membership or surrounding communities to make energy-related decisions.

3. Schools, colleges, and other educational institutions. Support

should be provided for development of curricular materials, for teacher training, and for outreach activities. These activities will benefit from involvement of teachers' groups, textbook publishers, and others who will be involved in delivering the educational programs and materials.

4. Creative use of development and demonstration funds. The principle of active education which we are emphasizing can be advanced by involving publics in the process of advancing energy technologies. Development and demonstration funds from all DoE sources should go preferentially to community projects which involve local governments, trade associations, neighborhood associations, or other community groups in deciding about their own energy alternatives. The process of seeking the project will involve these community groups in discussion of energy alternatives, motivate them to seek accurate and contextual information, and thus advance the goal of an informed citizenry while developing new technologies in the most advantageous community atmosphere.

IV. Recommendations

Administration of energy education

1. Energy education must be distinguished from the promotion of program missions within the Department of Energy. To accomplish this, an Energy Education Office should be established, administratively separate from DoE mission-oriented programs. It might be located within DoE, or in another agency, such as the Office of Education or the National Science Foundation.

2. Substantial funding (at least $10-20 million per year) should be committed to the goal of raising the level of public understanding of energy issues, so that the public can make better informed decisions in this emerging

and critical policy area.

3. All energy education materials and programs should be prepared outside mission-oriented entities of government or industry.

4. These materials and programs will be subject to a process of peer review by educators and scientists, organized by the Energy Education Office.

Content of energy education

5. Energy education should be directed at increasing public understanding of energy choices in their broadest context. Thus, education must place factual information within the perspectives given by contextual information about the economic, social, environmental, political, international, ethical, and other issues and forces which shape policy and determine the ultimate effects of energy decisions.

6. The national energy education effort must attend to all major technical and policy options, specifically including all technologies to which substantial federal commitment is being made.

7. The national effort must attend to both national issues and regional-local questions, giving equitable emphasis to all the various types of local and regional energy concerns. A panel including regional representatives should work to assure this balance.

Delivery of energy education

8. As energy issues are not the same for all citizens, some energy education is appropriately designed for each of the many special publics in the nation.

9. A variety of channels is appropriate for delivering energy education. These include educational institutions, the various mass media, and especially the organizations which represent special publics and which are motivated to deliver education to their people.

10. The people who deliver energy education should be centrally involved in creating the programs and materials they deliver.

11. Development and demonstration funds for energy technologies can promote education if funding is preferentially given to projects in which the affected public is actively involved from the beginning in developing and demonstrating the technology.

Clearinghouse

12. The Energy Education Office should regularly report on the status and progress of federally funded energy developments, compiling in a single report the information sent it by each such program.

13. Descriptions of locally developed energy programs (educational and otherwise) should be filed with the Energy Education Office, so that the information will be available to local groups throughout the country.

Appendix F

THE PILLSBURY COMPANY
EXECUTIVE OFFICES
MINNEAPOLIS, MINNESOTA 55402

JOHN E. HAALAND, PH.D.
VICE PRESIDENT

December 20, 1978

Ms. Shirley Sutton
Executive Director, Project Pace Setter
Americans for energy Independence
Park Building
355 Fifth Avenue
Pittsburgh, Pennsylvania 15222

Dear Shirley:

I recognize and accept the task force's preparation of a paper on energy education for the Department of Energy to be primarily process oriented rather than content focused. I think the content of present energy information, however, bears significantly on the educational process. In my November 20 letter to Richard Stone, I examined some of the contextual uncertainties. In this letter I would like to share with the Task force my perception of the energy situation. We all have different perceptions of the problems, but this very fact leads me to conclude that there is need for a better informed public concerning energy matters - both short term and long term. The task force meetings and focus on these issues has been helpful in shaping these views.

The short term energy problem is due to the nation's dependency on oil imports from the Mid-East, particularly Saudi Arabia. The stability of the Mid-East is in serious question and thus our present and growing dependency on Mid-East oil constitutes a high risk to the nation. In addition, our total imports (primarily from OPEC) contribute to our balance of payments problems and has a significant bearing on international finances and the value of the dollar.

It is clear that the average price of energy in the U.S. must continue to increase if we are going to be able to make a transition to alternative fuels while reducing our use of natural gas and oil. As U. S. average energy prices approach the price equivalent of world crude oil, alternative energy sources will become increasingly more attractive and their utilization will increase. This, however, may take one or two decades.

The risk during this time is that a Mid-East crisis may occur, resulting in a disruption of oil supply from that area. Such a disruption during the next decade would require the U.S. to put into effect energy emergency plans affecting the economy and every individual. If such a disruption does not occur and the price

John E. Haaland
December 20, 1978

Proposed insert to Shirley Sutton's draft, dated December 15, 1978

The insert is intended for the last paragraph of page 3 of the section entitled, "Public Understanding of Energy Issues," after the sentence reading, "It should be directed at increasing public understanding of energy choices in their broadest context."

This process is greatly complicated by the diversity of informed viewpoints concerning the nation's perceived energy problem. This diversity reflects a lack of consensus concerning the available information and the various approaches to managing the situation. A position on energy needs to be clearly established by the President and the Department of Energy which can be supported and communicated to the public in a credible manner.

The context of this position must be relevant and understandable. Both the timing and the urgency of the concern must be recognized. For example, if the contextual information presents the energy problem as essentially an oil import problem, it could be argued that as long as there is stability in the Mid-East and the average price of energy continues to approach world oil prices, there will be no national energy supply problem. Certain regional inequities might exist due to pipeline shortages, local severe weather or labor conditions but these should not be of such duration or proportion that they would be unmanageable. The critical national concern then relates to the stability of the Mid-East and the ability of the middle and low income members of the public to absorb the impact of rising energy prices. In this context, energy conservation is simply taking the steps necessary to reduce the impact of rising energy prices. New technologies and alternative energy sources would replace existing ones as they become cost-justified. The contextual knowledge and practical information provided through energy education in this scenario is different from that required in the context of a national crisis, on the one hand, versus a long term gradual, low-risk transition to alternative energy sources, on the other.

Appendix G

Department of Energy
Washington, D.C. 20545

JAN 17 1978

MEMORANDUM

TO: James C. Kellett, Director
Educational Programs Division

FROM: Robert W. Mason, Executive Assistant to the Director
Division of Magnetic Fusion Energy

SUBJECT: EDUCATION IN THE DEPARTMENT OF ENERGY

Introduction

The crucial issue of public education in the Department of Energy (DoE) is tied to a definition of what public education is and the Department's basic problem--its purpose is unpopular with the American people. This paper will clarify the term and the problem. It generally outlines a democratic premise of how to help the American people understand the wider energy problem. This in turn would lead them to support intelligently those energy policies that will give citizens the greatest opportunity for liberty and productive lives.

Interviews with 25 energy people in and out of the DoE show there is confusion about public education and no real education program under way to help the American people understand the energy problem and its effects on their well-being.

Conclusions are presented in the final section. Questions of program content, organization, and resources, which were to be discussed in a second memorandum, will not be dealt with. Because of my regular assignment, I have had to terminate the study.

Background

"Public education" is being suggested for the title of a program in the Education Programs Division of the Office of Education, Business and Labor Affairs (EBLA). This program is supposed to be distinguishable from other related activities of the DoE. The question of a satisfactory definition of public education has arisen. Can this term be used to define a program which is different from, but contributes to, the purposes of the Office of Public Affairs, the Office of Consumer Affairs, and the Energy Extension Service?

This paper attempts to show that a rigorous definition of public education is possible and that within this definition, public education has an essential purpose in fulfilling the Department's goals. This educational aim is to raise the quality of public discourse about energy issues and help to establish and maintain the credibility of the Department to large segments of the American people.

First, the difference between propaganda and education is an important distinction. What is truly "education" or "educational" is one thing, and what may be "educative" but whose purpose is to persuade a person to accept a policy objective is another. This approach necessarily raises the critical issue in DoE of gaining public understanding and support necessary to achieve its objectives; i.e., DoE's task of leading the American people to accept energy conservation and substitution of alternative energy sources is variously unpopular. Almost everyone can complain about one or more aspects of the National Energy Plan. Yet the plan's success depends

substantially on public acceptance of the need for these changes. An important question, therefore, is the means which the new department will adopt to promote acceptance of a national plan that contains something distressing to almost everybody.

It is clear that Americans must change behavior as consumers and citizens before the goals of the National Energy Plan can be achieved. Since the winter of 1973 the people have indicated they do not want to behave differently as energy consumers and they are not yet ready to see irreversible decisions taken about alternate energy technologies for the future. Nevertheless, a most important premise of the National Energy Plan is its reliance on voluntary action in energy conservation and a unification of spirit and political behavior to wage "the moral equivalent of war." Continuing increases in petroleum consumption and lack of consensus on a national strategy have underscored the importance of rousing citizen's interest, awareness and understanding. Otherwise, there can be no effective economic and political response to the President's call.

Propaganda or Education?

> Propaganda is the more or less systematic effort to manipulate other people's beliefs, attitudes, or actions.... The propagandist has a specified goal or set of goals. To achieve these he deliberately presents a selection of facts, arguments, and displays of symbols in ways he thinks will have the most effects.
>
> Comparatively deliberate selectivity and manipulativeness also distinguish propaganda from education. The educator tries to present various sides of an issue--the grounds for doubting as well as the grounds for believing the statements he makes, and the disadvantages as well as the advantages.... Education aims to induce the reactor to collect and evaluate evidence for himself and assists him in learning the techniques for doing so.
>
> Encyclopedia Brittanica, 15th edition

Behavior modification, which is talked about increasingly in relation to the need for public response to the energy problem, is an unpleasant notion most often associated with Orwell's world of 1984. Much as we might agree that we should modify our behavior to effect energy conservation, the idea of an individual's being caused to change without an awareness of the tools of persuasion being applied to him is repugnant and the antithesis of a democracy. However, it is just this question which arises in discussion of how to mount effective information programs, of how to promote increased public awareness, or how to educate people to accept and support the administration's energy program. I would maintain that we cannot educate anyone; education is an active pursuit engaged in by an individual.

Further, there is the perceptible distinction between education and all forms of communication used in information, outreach, and extension programs. Education is a process which one person conducts for himself. It should be free of any form of persuasion by its sponsoring institution except logical argument based on all relevant evidence. The Department can support and assist this process in various ways. It can support the educational activities of other organizations and institutions in such a visible way that the Department gains credibility and, in the long run, the quality of public discussion about energy is raised.

Education about the energy problem is more than a question of understanding physical, economic, and political facts and then acting on them. Energy education also includes consideration of the wider implications of programs proposed by political leaders and the possible

changes of certain basic social values that might unintentionally result. For example, the basic energy issue for Americans revolves around the uncertainty of continued growth that has been the rule of our nation for so long--growth of the GNP, growth of energy consumption. Understanding that increased energy-expensive goods and services brings costs as well as benefits is overdue. This unease about the adaptability of our economic structure and what is essential to our well-being adds to the difficulty of reaching a political consensus about how energy resources will be supplied, conserved, and consumed.

What tools, aside from economic sanctions and incentives, is DoE management willing to use to stimulate desirable changes in the national behavior related to the energy problem? I suggest that there are two essential devices, and further, that the success of the first in our society depends on the visible presence of the second. These are propaganda and education. (The term "propaganda" is used to emphasize the distinction between these forms of communication and not to attribute evil intentions to anyone.)

We know that information conceived as press releases, pamphlets or fact sheets--even public meetings--is intended to bring a favorable response. Do we engage in propaganda efforts and is this bad? Not necessarily, but we inevitably tend to move in that direction when we address the "general public" (there is none) and when we are relieved from testing our statements against the perceptions of a disinterested agent (there is none). Most important, however, are the perceptions held by others. Generally, our statements and statistics are regarded

by literate people as serving the narrower interests of the agency or the administration. My point is that the careful selection and presentation of evidence to attain the honorable ends of public policy is not enough. It (propaganda, if you wish) is expected, is perpetrated in some cases, and is perceived to occur. The antidote is education.

"Public Education" Defined and the Nature of the Energy Problem

In this discussion, "public education" refers to any organized learning which takes place outside the formal educational institutions such as schools and degree-granting colleges. Use of the term "public" is unfortunate since "public education" also commonly refers to publicly financed educational facilities and the entire institution of public education in America. We could just as well use "open," "continuing", or "adult" or another word to mean not part of the 12 to 16 years of formal education.

The kind of organized learning I have in mind takes place in community centers and colleges, museums, churches and other civic organizations, in early morning television courses, through correspondence courses, and newspaper lecture series. All these programs and facilities--which engage as many people each year as all the institutions serving those working for diplomas and degrees--have in common organized instruction chosen by the learner for practical or intellectual reasons.

This sort of instruction can take place in a classroom, a museum hall, or at home. It can be conducted by a teacher or the learner can work independently.

Is "public education" limited to certain subjects? Yes and no. From the learner's point of view anything he wants to learn is legitimate fare. From our perspective as a government agency wishing all citizens would learn quickly to behave correctly by conserving energy, the answer isn't so simple.

What do we think the citizen should learn, and how should he learn it? Two kinds of knowledge related to our energy concerns are important: practical knowledge that affects the citizen's economic behavior as a consumer or business operator and contextual knowledge that may affect his social or political behavior.

I have attempted this categorization, not because there is a clear distinction between the practical and the contextual, but as part of the argument that "education" in the DoE has an important and even fundamental purpose, can be defined, and should be distinguished from other activities.

Practical energy knowledge is the stuff of our everyday coping with higher fuel prices, home and plant energy conservation, whether to invest in a solar collector, the meaning of life-cycle costing, the whereabouts of reputable home insulation contractors, and the fuel economy of next year's Chevrolet. It is the vital information for solving today's problems of living. The stimulus that produces our

knowledge-seeking response is, more often than not, a rising cost. Given the same information, most reasonable people would tend to agree on matters of practical knowledge (though they might choose to use this knowledge differently).

Contextual knowledge,on the other hand, is a different matter, for it seeks connections between distant related phenomena:

* We are concerned with the connections between dependence on foreign oil and national security, inflation, unemployment, and retarded economic growth.

* We attempt to understand the long term social and environmental benefits and costs associated with a given technological decision.

* We confront the implications of exponential growth on the quality of life generations in the future.

The context of the energy problem, in fact, includes every aspect of our way of life, our economic system, our social and political systems, our public health, our physical surroundings, and even our feelings about what is beautiful and desirable. It is socially value-laden, in other words. Contextual knowledge inevitably touches the most important concerns of our lives because it deals with purposes.

With contextual knowledge related to the energy problem people could no longer take for granted that the economic benefits of additional energy outweigh any long term social or environmental costs. Instead, they would begin to recognize that the heart of the energy dilemma is that production and use of energy exert both positive and negative influences on (human) well-being.... Supplying energy to the economy contributes to the production of a stream of economic goods and services generally supportive of well-being; but disruptions of the social, biological, and geophysical components of the

environment, arising from the processes of getting, converting and using energy, detract from well-being by diminishing the stream of environmental (nonmarket) goods and services these components provide."[1]

Recognition that there is a larger, longer-term energy dilemma prepares a citizen to arrive at his own decision about immediate issues and to act on his point of view.

Perceptions of Public Education

Interviews with DoE persons, generally in the program offices of Intergovernmental and Institutional Relations, and several outsiders have revealed a number of issues related to education in the DoE. Management should note these differences of opinion in considering how and where to locate an eduation program in the DoE organization.

Although many persons interviewed were asked standard questions, it was not practical in all cases to complete the questionnaire (see attachment 1) Therefore responses were not tabulated.

Instead, I have paraphrased statements which show the range of responses to questions. No one is identified. However, each statement is coded and can be traced to the interview notes. (See attachment 2 for the list of statements.) The following observations and issues represent my interpretation of the interviews and other, informal conversations.

---

[1] "Fusion Energy in Context: Its Fitness for the Long-Term; Exposition of a rationale for long-term energy sources suggests some forms of fusion may be worth the wait;" John P. Holdren, MS submitted to Science, November 1977.

1. There is no common understanding of the meaning of education or public education in relation to the government's energy mission among DoE persons or outsiders.
2. There is a distinct difference of perception between persons of higher and lower position in DoE and persons representing public interest organizations. These differences relate to the meaning and usefulness of education. Senior persons tend to find no important distinctions between education and information programs.
3. Outsiders and some DoE persons think that public education is a process that may be initiated in DoE but must be conducted relatively independently by qualified, non-government organizations that enjoy more credibility than the new government department. Some persons believe the DoE suffers from low credibility.
4. Essential conditions for an educational process are (1) information on all sides of an issue, (2) trust, between the department and education participants, (3) insulation from efforts by other offices to bend education for promotion of the agency's mission objectives and (4) a response mechanism for participants. Several persons think that the League of Women Voters contract is a model of a good public education project.
5. Higher placed persons in DoE indicated that all communication contributes to the public's education about energy. Energy education was seen as the task of persuading the public to accept and support the administration's policy objectives.

Others, including all the outsiders, believed that education is concerned with helping the individual to improve his understanding of the context of the energy problem.

6. Perceived distinctions between the program areas of Consumer Affairs (CA), Energy Exchange Service (ES), Public Affairs (PA), and a public education activity are fuzzy. CA is seen as the access place for those consumers with energy price or regulatory grievances and as the facilitation of public interest group communication. ES exists to stimulate energy information services at the state and local level. PA is thought to supply information for the media with no specific segments of the general public in mind.
7. There are few specific ideas about appropriate goals for education programs. People speak of the need for improved awareness and understanding leading to action by the citizen.
8. The contextual background of the energy problem, not practical information about energy conservation, is the appropriate content of a public education program.

   Several program ideas were suggested:

   - o topical discussion papers;
   - o a guide to sources of energy information;
   - o learning about important issues from the leadership of major public interest groups.

9. The most effective way to conduct public education programs is to support the efforts of public interest organizations, ranging

from the Boy Scouts to Hadassah and the Sierra Club.

10. Possible objectives of a public educational program are seen as taking stock of all related activity within the government, industry, and other institutions (short term) and increasing the volume of communication with such groups.

Legislative Support for Education

From the DoE Organization Act (P.L. 95-91, 42 USC 7101) one gains an impression that little or no education activity was intended. Instead, one is left to infer that education programs might be conceived in relation to the Department's efforts to inform the public ("disseminat(e) information resulting from...(research and development) programs"); increase public (consumer) awareness of the energy problem (to "create an awareness of, and responsibility for, the fuel and energy needs of rural and urban residents"); and insure citizen participation in the process of government decision making ("to provide for, encourage, and assist public participation in the development and enforcement of national energy programs").

Current Education in DoE

Although the enabling legislation says nothing explicitly about education, the Department operates an Educational Programs Division. This Division's programs include:

- o grants and fellowships for graduate training in the national laboratories plus related conferences;
- o workshops and seminars for high school and college teachers;

- o curriculum materials development for kindergarten through college;
- o other graduate training in energy-technology-related fields; and
- o other education projects.

From the ERDA Office of Public Affairs the division inherited funds ($382,000) and a "public programs" activity consisting of:

- o a grant to the League of Women Voters ($200,000) providing additional funds and technical assistance for the League's established energy education program; and
- o a public service advertising project conducted by the Advertising Council of America ($150,000).

From this base the Director, Educational Programs Division, and the Director, Office of Education, Business and Labor Affairs contemplate a Public (Educational) Programs Branch and have asked:

1. What is meant by public education and what does the term mean to DoE managers?
2. How can public education be distinguished from related information activities?
3. What should a public education program do?

Conclusions

The intent of this memorandum has been to help those who are responsible to find an appropriate place in the Department for so-called "public educational" programming. The discussion began with a consideration of the perceptions of "public education" and "education" held by key persons responsible for the agency's external relations.

The study was undertaken with the assumption that public education and its synonyms do in fact define a kind of organized educational activity which millions of Americans engage in each year. This form of education can be applied to the national problem of energy awareness if distinguished from other communications activities such as consumer affairs, energy extension, and public affairs which sometimes carelessly invoke "education" as an aim or justification for their equally important claims on resources.

1. The foremost conclusion of this study is that there is little clear idea among the persons interviewed of what "public education" might mean or how an educational program might be distinguished from an information or outreach effort whose aim is to promote the agency's narrower mission objectives. It was surprising but understandable after reflection, that highest level persons tended to blur any distinctions between education and information in favor of "getting on with the job." These persons, after all, are charged with implementing the President's policies and often seemed inclined to consider the issue of energy education as an academic question. They inherited component organizations with major program units already formed. Nevertheless, it is instructive that those most prepared to recognize the implications of a substantive difference between education and "educative" programs were middle level persons and representatives of public interest organizations.

2. The management of the Department evidences mild interest but no express commitment to the encouragement of energy-related education programs as an important means of increasing the American people's understanding of the energy problem. Although this memorandum has paid only scant attention to budget analysis, an examination of the budgets for educational programs of any type will verify this claim. The public education program under consideration involves less than a half million dollars, most of it already committed to other activities including a public service advertising campaign. The proposed activity, furthermore, would be sequestered in the Education Programs Division, a part of the Education, Business, and Labor area regarded by one observer as a collection point for low priority activities of the Assistant Secretary for Intergovernmental and Institutional Relations.
3. Further evidence for the above conclusion may be found in the Department of Energy Organization Act which nowhere provides for education programs. The Act speaks only of informing the public, increasing public awareness, and insuring citizen participation. I conclude that a public education program could make important, though indirect, contributions to these objectives.
4. From interviews and other conversations, it is apparent that many citizens do not believe statements made by the Department of Energy. This lack of credibility harms the agency's efforts to promote

public awareness of the energy problem, citizen participation in energy conservation, and political support for the National Energy Act.

Unclear thinking in the Department about education and information plus public uncertainty about the truthfulness of statements by this federal agency led me to discuss the difference between propaganda and education. This distinction is important if one believes that alert citizens recognize the self-serving nature of much government agency information and intuitively reserve judgement or even look to other authoritative sources. A true public education program would help to remedy this situation.

5. The term "public education" has a useful definition understood by a large segment of professional educators. Public education is any program of organized instruction, undertaken by a person to advance his vocational skills or to satisfy an interest in learning something new. It is usually considered to exclude programs aimed at high school or college degrees. Instruction can be self-administered; it does not require either a teacher or a classroom.

A further qualification is suggested to distinguish public education from those other programs that seek to engage the public's interest in taking practical measures to conserve energy. In general terms, the content of public education about energy should deal with the context of the energy problem

and not with practical instruction. The aim of public education programs should be to raise the level of public discourse about energy by broadening discussion to the political, social, environmental and economics consequences of the problem and proposed solutions.

This exercise has made it clear that since "public education" hasn't much meaning, another name might be selected for a DoE program with such educational purposes as I have suggested. Following are some possibilities:

Energy Education Program

Open Education Program

Energy and Society

Energy Education Assistance

Continuing Energy Education

Popular Energy Education

I favor a term like Education Assistance Program because the most effective way to serve an educational objective is to assist other organizations like the League of Women Voters which operate their own educational programs. Also, such a coined name would have no other associations.

6. An education assistance effort should be insulated from pressures of DoE program offices and should have direct access to an Assistant Secretary. It is natural and appropriate that DoE technology programs promote their interests as effectively as

possible. This will, however, inevitably bring a program office into conflict with an office attempting to present all relevant information, pro and con, on a technology which has stimulated intense public debate (e.g., recall the breeder program's objections to a National Science Teachers Association fact sheet produced under contract to ERDA's Office of Public Affairs). If the education assistance effort is to work successfully for DoE's eventual advantage as the beneficiary of increased credibility, it must operate whether the results support or take issue with DoE or current administration policy. Otherwise, the quality of public discourse will not have been enhanced.

7. Finally, I conclude that an advisory group which can effectively certify the integrity of educational material represented by the DoE and help the education assistance program identify cost-effective program ideas and priorities would be essential. Such a body could perhaps lend some weight to appeals for larger eduation budgets. I have in mind selected representatives from organizations like the League of Women Voters, the Sierra Club, AFL-CIO, National Education Association, Common Cause, the Boy Scouts, the American Association of Museums, etc.

Attachments:
1. Questions for Public Education Study
2. Answers to Public Education Study Questions

Attachment 1

QUESTIONS FOR PUBLIC EDUCATION STUDY

1. What is Public Education?
2. Which DoE offices conduct PE projects? Other agencies?
3. How does PE differ from public information, energy extension, and consumer affairs?
4. What should be the goal of PE in relation to DoE's mission?
5. What should DoE undertake in PE?
6. What is the relationship between PE and public participation?
7. What should DoE spend for all PE?
8. Through what institutions or other channels should DoE conduct PE?
9. What should DoE accomplish in PE within 12 months? Two years? Five years?
10. How might one evaluate performance in PE programs?

Attachment 2

ANSWERS TO PUBLIC EDUCATION STUDY QUESTIONS

1. What is "public education?"

- a very objective form of communication whose purpose is to teach people to think for themselves. (A)[1]

- goal...to promote awareness and discussion of the energy situation and energy policy options among those individuals most concerned and active in public policy issues... the concerned citizen. ...in no way...a public relations campaign or marketing effort on behalf of Administration energy policies. (B)

- connotes mind control when used for bureaucratic reasons (as a synonym for policy promotion)[1] ... can't see educating (voting citizens) to accept certain values, rather providing them issues and information to decide their own values. (C)

- possible only if focussed on a particular audience that wants to understand issues, not be told what to think. (C)

- perfect example (of the public education process) is League of Women Voters contract; its aim is to promote public policy discussion and the League has freedom (to pose the issues without DoE's interpretation). (C)

- no definition (needed in DoE framework); DoE can't (directly) conduct education programs because of its credibility problem: nobody believes DoE numbers (data). (D)

- pertains to education of public in energy matters; separate from K-12 education. (E)

- a misnomer; consumer affairs (and other communication with the public) is public education, too. (F)

- "institutional education on the total DoE," or "institutional public information;" education (should be used as) a behavior modification tool to get a response, to get them (citizens) to do something; this sets public education apart from public affairs. (F)

1. Capital letters refer to interview notes. Parentheses contain my interpretations of the interviewee's statement.

- purpose of public education is to educate the public on the institution of energy, i.e. DoE: what the department is charged with and its impacts on citizens' lives, both near and long-term impacts. (F)

- don't believe (we) mean anything more by education than a (cloak) for other things we want to accomplish like public awareness and getting a response; "public" has no meaning in the term; one must specify which public. (G)

- (no definition but) it implies attitude and behavior changes; government has failed so far by assuming greater public knowledge than (actually exists), government probably can't conduct public education because its efforts are seen as self-serving. (H)

- a sustained effort to persuade people to do the proper and right things as they perceive them by using brokers in the private and the public sectors who have constituences; League of Women Voters project is archetype of a public education project; DoE hasn't the credibility to do education directly.(I)

- Informal education outside school, usually involving no skills training, and is issue oriented; real learning takes place when and how the individual determines. (J)

- communication about conservation or solar energy (for example) with the consuming public to motivate them to take an action; similar to marketing and like consumer education; raising awareness. (K)

- concerned with information to help people save energy; different from publuc affairs which tells what the department does; extension service is public education. (L)

- don't define except in terms of aim to help citizens to participate in the decision process; public education should occur midway in a sequence beginning with public information and resulting in political action; no matter what, education cannot be (used) to promote an agency's mission. (M)

- (Everything in DoE's communication contributes to public education - or should; (purpose of education) is to explain the administration's problems and programs; participation is one process in which public education takes place; public education is 1/3 to 1/2 of DoE's job in Intergovernmental and Institutional Relations. (N)

- no definition; public education like the League of Women Voters project should be conducted by Consumer Affairs Office; handling academia from K through continuing education is the business of Education, Business, and Labor Affairs. (O)

- the business of convincing the public an energy crisis exists; a successful educational effort requires credible people and institution's (DoE can't conduct education programs alone for this reason). (P)

- (a key to solving our problem), education must give people an idea of the range of options available to them and the nation; pitfall is the much government information is (perceived as) non-neutral; first problem is generating trust by not taking sides (between industry and environmentalists). (Q)

- public education could survive in DoE only (Q)

2. Which DoE offices conduct public education projects? Other agencies?

- Public Affairs' energy simulation and museum exhibits; HEW-OE's Energy Education Action Center and NSF's public programs. (A)

- Education Programs Division: League of Women Voters grant, Council on Economic and Environmental Balance grant. (B)

- old ERDA Public Affairs. FEA Conservation group. (E)

- Divisions of Solar and Geothermal Energy; Energy Extension Service through materials development and awareness raising events. (G)

- Education Programs Division (H)

- Program divisions with help from Education Programs Division (I)

- Science museums, NSF, PBS (J)

- All parts of Intergovernmental and Institutional Relations count (K)

- 1/3 to 1/2 of IR (possibly excluding Congressional Relations)

3. How does public education differ from public information (Public Affairs) (PA), Energy Extension (ES) and Consumer Affairs (CA)?

- CA answers complaints and is oriented to pricing and problems of the regulatory process. (A)

  ES is an information transfer mechanism.

- CA focuses on citizen activists who influence legislation to ascertain their concerns, to disseminate information (not educational material); primary mechanism is public meetings or briefings. (C)

  ES supplies people's need for practical information; it isn't intended to promote policy discussion.

  PA is to make known significant DoE events but not to promote anything.

- CA doesn't originate material (E)

- PA doesn't work <u>with</u> people.
  ES, targeted to specific groups and tasks, provides right information and right service, even an expert to help the recipient.
  CA has been too much like public education or PA; its goal should be to solicit opinions and thereby to affect DoE decisions.
  Public education is a natural, secondary result of these programs. (G)

- CA struggles with the myths of popular knowledge about the energy problem. (H)

- ES is a client of DoE education programs

  CA is concerned with aggrieved people; its purpose is to gather information and problems perceived by consumers, not to effect public education. (I)

- PA is passive; public education must motivate people to do something. (K)

- Education should deal with schools. (K)

- Important distinction between programs is clientele: PA deals with general public, EBLA anticipates desire of people in education, business, and labor to participate in decisions; CA and ES provide for participation of unorganized publics (by responding to those who do organize). (N)

- CA transmits issues and policy information to citizens and public interest organizations; it stimulates educational process. (O)

4. What should be the goal of public education in relation to DoE's mission?

- promote awareness and discussion of the energy situation and energy policy options; to stimulate citizen exploration and evaluation of...energy problems and the impact...on all other societal activity. (B)

- to reach the concerned American, the broadest audience we can hope to reach (B)

- understanding the problem (E)

- to get them to do something (F)

- increased awareness and understanding that lead to productive actions impacting energy problem (G)

- persuade people to act, using an economic rationale (I)

- doubt that an honest education program can be conducted in an information (PA) organization (J)

- to inform the people about the problems and programs of the administration and explain why (K)

5. What should the DoE undertake in public education?

- Background information on energy issues: (B)

o energy relationships between social and cultural order and the natural and built environments

o energy resources and technology: availability and use of resources in relation to technological feasibility

o energy and environment: environmental considerations in energy resource management

o energy and economics: effects of price on energy policy

- Periodic topical discussion papers:

o technology and other policy issues clarified for relationships to consumers and environmental quality

- Citizen resource guide describes major sources of energy information (B)

- Dissemination of above material to citizen, state, local and federal organizations.

- EBLA would establish education policy, communicate with large (multiplier) organizations and get feedback from regional groups; most education would be done by program offices with support from EBLA. (F)

- EBLA should coordinate DoE education efforts. (G)

- Films, "Tips for Energy Savers" speechmaking. (H)

- Concise and candid fact sheets that illuminate disadvantages as well as advantages. (M)

- Visual materials including 35MM slide sets for common knowledge and films explaining larger energy-related issues.

6. Omitted

7. Omitted

8. Through what institution or other channels should DoE conduct public education?

- Network TV specials, public service ads, PBS specials, videocassettes, citizen interest organizations (B)

- Don't know; we need a strategy. League of Women Voters was supported just because they come first through the door.(E)

- ES and state organizations are good multipliers of educational activity. (G)

- Industry is doing more than we know about; priority channels include the League of Women Voters, Boy Scouts, Hadassah, Walt Disney TV specials. (H)

- Channels are: TV, newspapers, radio, and (very last) government publications. Useful organizations: American Legion and Boy Scouts. (K)

- Education system, business and consumer groups, and the media. (N)

- Call on NAACF, National Urban League, National Farmer's Union, and trade unions. (Q)

9. What should DoE accomplish in public education within 12 months? Two years? Five years?

- Rather than occasional grants, design a set of RFP's for specific tasks. (B)

- Know in 12 months what we and others are doing, including industry and other institutions. (H)

- More extensive and intensive communication with many interest groups; Improve DoE's credibility;

  Gains in pressure group understanding of the hard choices we face. (N)

- Tap existing, free institutional services such as Advertising Council's public service ads;

  Stimulate other organizations to act on their own. (O)

10. Time did not permit discussion of evaluation in most interviews. Other responses were unsatisfactory.

APPENDIX H - ENERGY BEHAVIOR by Paul C. Stern and Eileen M. Kirkpatrick - REMOVED DUE TO COPYRIGHT RESTRICTIONS